THE RUBBER AGE

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CONGRESS INTERESTED IN PANAMA CONCESSION

Statement by R. O. Marsh Stirs Borah and Black to Start Inquiry into Grant of Panama Lands to British Corporation for Mineral Development.

America's need for rubber and the chances of her producing on the American continent a part of the supply she needs came before both houses of Congress again on June 3 when the lawmakers gave attention to a statement circulated by Richard O. Marsh, civil engineer and explorer, that possibilities for development in Panama had been nullified by a concession granted a British corporation by the Panama government.

Mr. Marsh, who has made extensive explorations in Panama, has been busy for the last several weeks visiting officials in Washington in order to discuss with them the terms of the concessions which he contends are such as to make it a matter of interest to the American government, both from the standpoint of protecting the Panama Canal and preventing Americans from developing the favorable rubber lands. An article by Mr. Marsh on the subject appearing on page 189 of this issue of THE RUBBER AGE explains that the conceded lands include the best areas in Panama for rubber culture.

The British concessionaire is known as the Panama Corporation. The rights it has been granted in Panama are claimed to be entirely mineral and the worry of any would-be American rubber planters would arise from the fact that all the public lands in the Panama districts conceded to be best for rubber are withdrawn for ten years while the concessionaire is selecting the lands it finally wants to develop and keep.

The subject was brought up in the Senate by Senator Borah who introduced a resolution calling on the Secretary of State and the Secretary of War to lay before the Senate all the information and correspondence in its possession pertaining to the grant. He did not discuss the resolution and through the objection of Senator Curtis of Kansas, the Republican leader, it was held up for further consideration.

In the House a statement was issued by Representative Black of New York harshly criticizing President Coolidge and Secretary Hoover for having allowed the concession to be completed without protest by the American government. Mr. Black based his remarks entirely on the desirability of having such lands, particularly insofar as rubber is concerned, developed by Americans.

The government departments are said to feel no alarm over the concession which has been completed and apparently would be difficult of annulment. The concession was approved several months ago but was only recently ratified by the Panama congress.

Replogle on Fishing Trip

H. H. Replogle, sales manager of the Rubber Service Division of the Grasselli Chemical Company, New York City, left recently for a fishing trip in the Saint John district of northern Quebec. He expects to be gone about ten days, returning to his office around June 12. This is the first vacation taken by Mr. Replogle since 1914.

Ford and Venezuela

A definite statement that Venezuelan rubber lands are being explored at the present time by representatives of the Ford Motor Company is made in a recent issue of the Michigan Manufacturer and Financial Record, published at Detroit. The agents for the sale of a 385,000-acre tract in the Tocuyo river valley are said to have interested Mr. Ford in the rubber growing possibilities of that section. The same journal states that it has received a private dispatch from the state of Para, Brazil, to the effect that Ford agents are also looking into the possibilities for rubber culture in that country.

ASSOCIATION DECIDES AGAINST EXHIBITIONS

Invitations to Show Products of American Rubber Industry at Philadelphia and Paris Declined by Rubber Association Board of Directors.

The Rubber Association of America will have no exhibit at the Philadelphia Sesqui-Centennial Exposition, the Board of Directors decided at its meeting on May 26. The management of the exposition invited the Association's participation on behalf of the industry but the Board could see no good reason for accepting the invitation and it was therefore declined.

The non-participation of the Association in the Philadelphia celebration will not necessarily mean that the industry will be completely without representation since individual manufacturers may take space for the display of their products. It is understood, however, that few companies expect to avail themselves of the opportunity. The exposition opened June 1 although not all the buildings are completed.

At the same meeting at which the Sesqui-Centennial invitation was considered, the Board took up the matter of exhibiting at the Seventh International Exhibition of Rubber and Tropical Products which will be held at Paris next January and came to the same decision that the Association should not be represented. The predominance of the space at the international exhibitions is usually occupied by raw material displays prepared by tropical countries.

The Rubber Association had a large display of American rubber goods at the sixth international exhibition, held at Brussels in April, 1924. A booklet descriptive of the American rubber industry was distributed. The exhibit was judged to be the best arranged of any at the show and a prize was awarded the Association for its excellence. Individual American rubber manufacturers may take space at Paris for the display of their products but it is not known that any will do so unless it is done through their European sales representatives.

Chemical Equipment Exposition Attracts Many Rubber Chemists

Over Fifty Industries Represented in Exposition Held in Cleveland May 10-15.—Rubber Exhibits Prove of Interest —Paper on Rubber Also Read.

The Second Chemical Equipment and Process Engineering Exposition, held under the auspices of the Association of Chemical Equipment Manufacturers, Inc., in the Cleveland Public Auditorium, May 10 to 15, proved to be of great interest to the many chemists and executives, including a number of representatives of the rubber industry, who attended during the week.

As usual in expositions of this kind, a number of the exhibits contained products of rubber manufacturers of use in many branches of the chemical industry. On the other hand, many of the exhibits displayed materials and products which find wide use in rubber factories. Among the rubber manufacturers who maintained exhibits were the American Hard Rubber Co.; B. F. Goodrich Rubber Co., and Miller Rubber Company. Other exhibits of interest to the rubber industry were those of the following: Air Reduction Sales Co.; Baker-Rauling Co.; Challenge Co.; Chemical Rubber Co.; Cleveland Worm and Gear Co.; G. H. Elmore; General Electric Co.; Hydraulic Press Mfg. Co.; Linde Air Products Co.; H. H. Robertson Co.; Watson-Stillman Co.; Westinghouse Elec. & Mfg. Co. [*Complete descriptions of the exhibits of the above firms will be found in he third column of this page.*]

The American Hard Rubber Co., N. Y. exhibit was in charge of D. Wilkins, H. S. Brady and C. F. Hilldring. It included hard rubber handling equipment such as piping, tanks, tank lining, valves and centrifugal and reciprocating pumps. Bulletins on those products were also available at this booth.

Goodrich Exhibit

The exhibit of the B. F. Goodrich Rubber Co., showed a rubber-lined wood tank, pipe valve fitting; chutes, fan, steel blow case, concrete tank, drum, hard rubber pipe and fittings, rod, pails and funnels, dye and bleach rod, used in material handling; cutless bearing, used in mixing and agitation; rubber-lined ball mill, used in disintegration, crushing, grinding and pulverizing. In charge were: H. E. Fritz, A. B. Merrill, V. A. Cosler, B. B. Annis, R. D. Fritz, W. Juve.

The Miller Rubber Company exhibited its line of mechanical rubber goods and corrosion resistant articles of rubber applicable to many industries.

Each of the following industries or groups of industries was included, by the attendance of various company representatives from presidents down through department foremen: the chemical, ferrous-metallurgical, electrical, rubber, electro-chemical, industrial equipment, public utilities, non-ferrous metallurgical, ceramics, paint and varnish, food products, oil, explosives, coal products, wood products, pulp and paper, textile, dye, soap, lime and cement, leather, petroleum, sugar and some twenty others. Each of these industries in some degree according to the Association, is dependent upon process technology and the latter's further development.

Registrants at the exposition came from 28 states, Sweden, Hungary, Germany and Canada. Advanced technical students from 38 colleges were also admitted.

Technical Bodies Co-operate

Sessions, dinners and luncheons of the various technical organizations co-operating with the Association occurred throughout the week. Major General Amos A. Fries, Chief, Chemical Warfare Service, U.S.A., Benedict Crowell, formerly Assistant Secretary of War, Dr. C. H. Herty, President of the Synthetic Organic Manufacturers' Association, A. E. Marshall, Consulting Engineer, H. H. Dow, President, Dow Chemical Co., G. O. Carter, President of the Association of Chemical Equipment Manufacturers, Colin G. Fink, Professor of Chemical Engineering of Columbia University and D. J. Price, Chief of the Bureau of Chemistry, U. S. Department of Agriculture, were among the more than 30 speakers who participated in the technical program of the week.

Of particular interest to the rubber industry was a paper read on Friday afternoon, May 14 by B. W. Rogers of the Linerite Division of B. F. Goodrich Co., on *Rubber—An Effective Material to Resist Corrosion and Abrasion.* Another well-known rubber chemist active in the proceedings was R. P. Dinsmore of the Goodyear Tire & Rubber Co., who as chairman of the Akron Section of A.C.S. presided at the chemistry sessions on May 11 when two papers were read.

An interesting point in connection with the growing use of rubber in the chemical field was noted by THE RUBBER AGE correspondent, namely that rubber is competing very favorably with glass, earthenware and lead. There seems to be no well-defined practice indicating when one or the other of these materials should be used. Glass, earthenware, and hard rubber are all brittle in varying degree. Lead is elastic and has certain advantages, but apparently is easily cut when subjected to rough handling. For example, in connection with lining tank cars and metallic barrels as used for the shipment of acids, soft rubber is used almost exclusively. In tanks used for pickling castings, hard rubber is used but it is protected by gratings which, in turn, are covered with soft rubber. Lead is unsatisfactory for this service because the castings are apt to cut it and brittle materials are obviously hopeless. Rubber is comparatively expensive and glass is frequently used for electric installation, pipes, containers, etc., largely on the score of price when these utensils are not subjected to rough usage, blows, etc.

EXHIBITS OF PRODUCTS OF USE IN RUBBER FACTORIES

Following are detailed descriptions of machinery, equipment and other products shown at the exposition which are used or can be used in rubber manufacturing:

AIR REDUCTION SALES CO., *342 Madison Avenue, New York, N. Y.*
Oxygen, acetylene, welding and cutting apparatus and supplies, acetylene generators, carbide, nitrogen.

BAKER-RAULING CO., *2130 W. 25th St., Cleveland, Ohio.*
Conveying equipment, crane trucks, tractors, elevating trucks, etc.

CHALLENGE COMPANY, *Batavia, Ill.*
Wood tanks, used in material handling (liquids), mixing and agitation, thickening and settling, filtration, dissolving, leaching, extracting.

CHEMICAL RUBBER CO., *West 112th St. & Locust Ave., Cleveland, O.*
Chemical laboratory apparatus; Warner & Swazey polishing machine.

THE CLEVELAND WORM & GEAR CO., *3249-99 E. 80th St., Cleveland, O.*
Cleveland worm gear speed reducers, used in material handling; disintegration—crushing, grinding, pulverizing; mixing and agitation; mechanical separation; drying; dissolving, leaching and extracting; precipitation and crystallization.

G. H. ELMORE, *Shaff Bldg., 15th & Race Sts., Philadelphia, Pa.*
Jigs, used in mechanical separation; revolving washer, used in dissolving, leaching, extracting; continuous centrifugal, used in drying, filtration, centrifugal and mechanical separation.

GENERAL ELECTRIC CO., *Schenectady, N. Y.*
W. D.—12 arc welder demonstrating range boiler side seam welding, oil immersed starters with push button control, flow-meters, fused quartz, small motors.

THE HYDRAULIC PRESS MFG. CO., *Mount Gilead, O.*
H. P. M. Boswell cutting mill, used in disintegration—crushing, grinding and pulverizing; H. P. M. high-pressure hydraulic thermoplastic moulding press, for moulding plastics; accessories for high pressure, super-heat and hydraulic use; used in mixing and agitation, drying.

LINDE AIR PRODUCTS CO., *30 East 42nd St., New York, N. Y.*
Linde oxygen, Prest-O-Lite acetylene, Union carbide, Oxweld welding and cutting torches. Working demonstration of welding process.

H. H. ROBERTSON CO., *First National Bank Bldg., Pittsburgh, Pa.*
Robertson protected metal roofing and siding sheets and building trim, Robertson stationary ventilator, skylights, stationary and movable sash—consruction materials.

THE WATSON-STILLMAN CO., *50 Church St., New York, N. Y.*
Complete line of heavy pressure hydraulic machinery—presses, pumps, accumulators, valves, fittings, etc.; 30-ton laboratory press, complete with curb, 50-ton laboratory press with heating and cooling plates, high pressure valves and fittings.

WESTINGHOUSE ELEC. & MANUFACTURING CO., *East Pittsburgh, Pa.*
Motors, used in material handling, disintegration, refrigeration; filteration; mixing and agitation; electric furnaces, used in heating; electric oven drying and evaporation; sign flasher; photo-electric cell; space heaters.

VAN ORMAN WINNER IN INTERNATIONAL RACE

Experienced Pilot Achieves Brilliant Victory with Goodyear III: 528 Miles Covered Before Landing; Akron Entry Disqualified when Forced Down at Start.

Ward T. Van Orman, experienced balloon pilot of the Goodyear Tire and Rubber Company, brought another international trophy to the United States when his balloon, the Goodyear III, won the James Gordon Bennett international balloon race held at Antwerp, Belgium, on May 30. The race is said to have been one of the most difficult and dangerous of the entire series of twenty annual contests. Van Orman did not achieve nearly so great a mileage as has marked other flights made by him, but he did manage to make the Goodyear III travel 528 miles through the successive snow, wind and rain storms with which all the pilots had to contend. The landing was made at Solvesborg in Southern Sweden where Van Orman descended to avoid being carried over the Baltic sea.

The U.S. Army S-16 piloted by Capt. H. C. Gray and Lieut. Douglas Johnson, and the Akron N.A.A. flown by John A. Boettner and Herbert Maxson were the other American entrants. The S-16 landed at Krakow, Germany, and the Akron N.A.A. was disqualified at the start when the balloon ascending in the rain became waterlogged and dropped to the ground, throwing Maxson through the ropes.

Countries Which Competed

Belgium, France, Italy, and Great Britain were each represented by three balloons. Spain entered two and Switzerland one. The Belgian star pilots, Ernest Demuyter and Alexandre Veenstra, between them, have won the race in the four preceding years.

The official classifications of the entries which finished the race are as follows: Goodyear III, 528 miles; Army S-16, 373; Belgica, 279; Belgian Prince Leopold, 192; British Miramar, 102; Spanish Penaranda, 93; the Swiss Helvetia, 81; British Banshee and French Picardie, 59 each; British B-46 and Belgian Aerostier I, 43 each; the Italian Aerostier III, 22 miles; the Italian Ciampina III and IV, 18 miles.

Van Orman won the national race held at San Antonio in 1924, again at St. Joseph in 1925, and the Little Rock race in 1926. By this international victory Van Orman has proven that free balloon racing is not merely a game of chance but is a matter requiring great skill, research, courage and experience. The entry of J. A. Boettner and Herbert Maxson, who qualified by finishing third in the Little Rock race, was made possible through the aid of Akron civic organizations and friends of the pilots at Goodyear.

Van Orman's victory with the Goodyear III will mean that the 1927 international balloon race will be held in the United States since the country which wins the race automatically becomes the next year's racing place. Akron has already opened a campaign designed to bring the event to that city. C. W. Seiberling, president of the Akron chapter of the National Aeronautic Association, and W. C. Young, head of the aeronautics department of the Goodyear Tire and Rubber Company, are taking an active part in the movement to have the Ohio city favorably considered.

Holt Heads Rubber Division

Everett G. Holt, who has served for four years as assistant chief of the Rubber Division in the Bureau of Foreign and Domestic Commerce, Department of Commerce, has been appointed chief of that Division by Secretary of Commerce Hoover. He succeeds P. L. Palmerton, the present publisher and editor of THE RUBBER AGE, who resigned the position recently. Mr. Holt is particularly well known among American rubber goods exporters to whose problems he has given special attention in the past. His collaboration with Mr. Palmerton and Dr. H. N. Whitford while the Department's crude rubber survey was underway has also given Mr. Holt a good understanding of the rubber industry's raw material problems. No announcement has been made as to who will succeed Mr. Holt as assistant chief of the Rubber Division.

MILLER RUBBER CO. REPORTS INCREASED 1926 BUSINESS

The Miller Rubber Company is doing a 25 per cent greater business at the present time than it was doing in 1925, according to a statement made by William Pfeiffer, general manager of the company, after his return from a two months' trip to various sales branches of the company. Mr. Pfeiffer also expressed his opinion that the rubber industry generally was on a sounder basis than at any previous time in its history.

FISK RUBBER PROFITS PUT AT $1.69 A SHARE

Six Month's Report Shows Healthy Condition of Company—Net Sales Amounted to $28,417,798 Which Were Slightly Under 1925 Figures.

Net profits of the Fisk Rubber Company for the six months ended April 30, totaled $2,124,593, it was announced on June 2. This was equal after dividends on the first preferred, the first convertible preferred and the second preferred to $1.69 a share on the outstanding 811,827 shares of no par value common stock.

The income account and balance sheet of the company formed the first interim statement for any part of this year by any of the large producers of tires and was regarded as an indication of a sound condition in the industry.

Net sales for the period amounted to $28,417,798, compared with $29,776,465 for the corresponding time last year. The latter amount represented slightly less than 40 per cent of the year's sales. Earnings of $1.69 a share compared with $1.68 on the common for the like period of 1925.

In his report to stockholders H. T. Dunn, president, said:

"It will be noted that the property accounts have decreased $90,000. However, plant additions, which have been more than offset by depreciation included in the cost of production, have increased productive capacity 16 per cent. Inventories of crude materials, work in process and finished products are carried at a higher figure due to higher prices of crude rubber, the unseasonable spring causing delayed public buying and elimination of the spring dating business as in former years. This situation is also reflected in accounts receivable, which are less than a year ago.

"Working capital position shows a marked improvement, the ratio of current assets to current liabilities being 4 to 1, as compared with 2.5 to 1 a year ago.

RUBBER COAGULATION BY SULPHURIC CONDEMNED

Acting upon a suggestion emanating from the leading chemists in the industry, the Board of Directors of the Rubber Association instructed the Association office to file a protest with the British and Dutch rubber growers organizations against the use of sulphuric acid instead of acetic acid as a coagulant for rubber. The protest is predicated on the belief that sulphuric acid is very likely to have a bad effect upon the curing and ageing qualities of rubber.

Gibbs to Speak

E. D. Gibbs, formerly advertising manager of the B. F. Goodrich Company and connected with the National Cash Register Company in the same capacity will be one of the speakers at the International Advertising Convention in Philadelphia, June 22nd.

Over the Pole!

MAY, 1926, goes down in History as the time when Airplanes and Airships in a few hours accomplished the dream of centuries!

On the 9th, Commander Byrd, and on the 11th, Captain Amundsen startled and thrilled the World by their ventures over unknown fields.

We, ourselves, pioneered into unknown ground years ago when we verified and announced the ability of our own Reclaims to enter into Rubber Compounds of the very highest quality, especially Tire Treads, Frictions, and Inner Tubes, without impairing their wearing properties in the slightest degree.

And now on May 12th, in New York (mind the date), The Chairman of The Special Committee of the Rubber Division, American Chemical Society, re-states the overwhelming opinion expressed at Akron, February 22nd, viz:

"Soft Rubber Compounds of the highest quality, designed to withstand abrasive wear (such as those used in the Tire Industry) may include properly made Reclaimed (with a corresponding but not equal reduction in Crude Rubber content), provided that proper attention is given to the details of compounding and cure."

Thus at last, the highest and most impartial authority recognizes a claim which we have been making for years.

U.S. RUBBER RECLAIMING CO. Inc.

100 East 42 St. N.Y. — **Factory-Buffalo N.Y.**

BISON

43 Years Serving the Industry— *Solely as Rubber Reclaimers*

Akron Representative—F. F. Dugan, 617 Second National Building.

Vanderbilt Obtains Sales Rights to Goodrich "Age-Rite" and "B-B"

Arrangements Have Been Completed for the Exclusive Sale of Anti-Oxidant Age-Rite and Accelerator B-B by the R. T. Vanderbilt Company—Properties of Materials Described.

An announcement of interest to the rubber industry was recently made by Dr. A. A. Somerville, vice-president of the Rubber Department of the R. T. Vanderbilt Co., 50 East 42nd St., New York City to the effect that the Vanderbilt company had completed arrangements with the rubber chemical department of the B. F. Goodrich Rubber Co., Akron, Ohio for the exclusive sale of all the Goodrich rubber chemicals and accelerators.

For some years Goodrich has been developing a number of materials in its chemical manufacturing division which have proven of great value in rubber compounding. Some of these materials have been marketed and sold to other rubber manufacturers, among which have been "Goodrich B-B", a vulcanization accelerator and "Age-Rite", an anti-oxidant. Rights to both these materials have been obtained by the R. T. Vanderbilt Company.

The accelerator B-B is said to give excellent aging properties to the cured compound, a high tensile strength, quick "kick off" in cure, flat curing curve and high resistance to abrasion. The present price quotation for this material is $1.05 @$1.07 per pound.

Anti-oxidants, of which Age-Rite is one of the leading grades available, have been developed to a high state of perfection only within the past eighteen months. They are age retarders in that they are capable of retarding the combination of oxygen with rubber after vulcanization—the lack of which condition has been a source of much annoyance and loss to rubber manufacturers in the past. For years attempts have been made to develop a material which would prevent too rapid deterioration of rubber goods and though some degree of success has been attained, it was not until the advent of the present line of anti-oxidants that manufacturers were able to guard against the usual losses from this source.

The following U. S. patents relating to anti-oxidants have been assigned to and are owned by the B. F. Goodrich Co., who license the use of the materials to the rubber manufacturers purchasing them from the R. T. Vanderbilt Co.:

1,515,642 Nov. 18, 1924 Winkelmann and Gray
1,532,213 Apr. 7, 1925 Winkelmann
1,532,398 Apr. 7, 1925 Geer and Jones

The use of Age-Rite is specifically covered by U. S. Patent 1,515,642.

Age-Rite is the product formed by the combination of acetaldol, $CH_3.CHOH.CH_2.CHO$, with alpha-napthylamine, $C_{10}H_7.NH_2$ in equimolecular proportions. It is a cherry-red resin, without definite melting point. It is brittle when cold, softens when warmed slightly, and flows freely at about the temperature of boiling water. It is insoluble in water, sparingly soluble in gasoline, and freely soluble in benzol and many organic solvents.

Following are some of the characteristics and uses of Age-Rite according to a bulletin just issued by R. T. Vanderbilt Co.:

Percentages to use—From 0.5% to 1.0% on the rubber content of the compound is sufficient. In pure gum stocks such as inner tubes and frictions, about 0.5% on the rubber is, ordinarily enough. In compounds containing large amounts of carbon black or clay, such as tire treads, nearer to 1% on the rubber is required. No change in accelerator, sulphur, or cure is necessary.

Time to add to mix—It may be added at any phase of the mixing, i.e., either before, during or after the addition of the fillers.

Effect as a plasticator or softener—Due to melting at milling temperatures it is a pronounced plasticator or softener for rubber. Therefore it facilitates mixing and tubing and tends to prevent scorching of a compound.

No effect on cure—Age-Rite may be added to a compound with assurance that in the great majority of cases it will have only a very mild if any, accelerating effect; and in no case does it retard the cure.

Effect on Physical Properties—Age-Rite produces no appreciable effect on the stiffness, hardness, abrasive resistance or tear. In a high-grade tread it may increase the tensile and elongation about 5%, but in general its effect on the tensile and elongation of a compound is not pronounced.

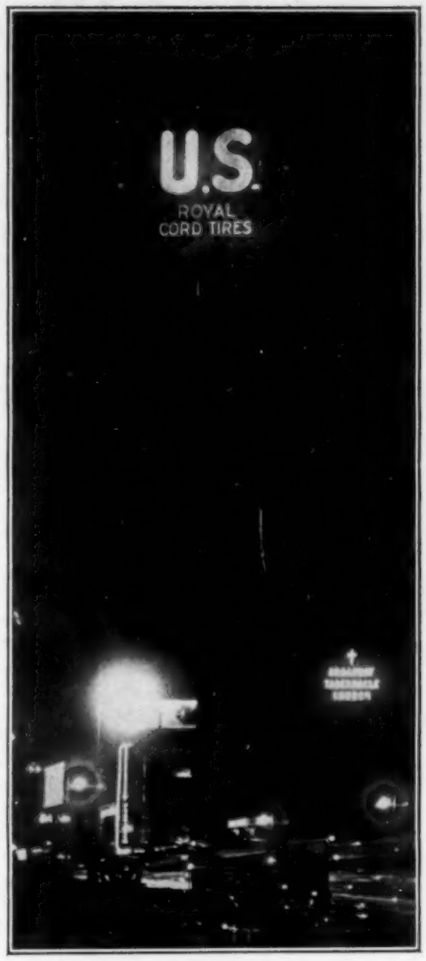
Effect on compounds—The hardness, abrasive resistance and tear of a stock containing Age-Rite do not change appreciably with age. In other words, if a stock is satisfactory originally with respect to these properties, Age-Rite will help to keep it satisfactory with age. Its principal effect on a compound during ageing is to retard greatly the ordinary falling off of tensile strength and elongation at break, and to bring about a simultaneous increase in stiffness (as measured by the stress-strain curve) much greater than that which occurs when Age-Rite is absent. This increase in stiffness can be observed from the stress-strain curves of a compound with progressive ageing.

Effect in heat ageing—Since heat hastens the oxidation and perishing of rubber goods, Age-Rite is effective in resisting the action of heat on rubber as for example in tires.

Effect in sunlight ageing—Sunlight also hastens oxidation and cracking of rubber and Age-Rite is effective also in retarding this action of sunlight. This statement applies likewise to articles which are flexed in service as for example tire side-walls.

The use of this anti-oxidant in inner tubes, frictions, treads, reclaim, mechanicals will produce long-lived products, the bulletin states. U. S. Pat. 1,532,213 covers its use in reclaiming scrap rubber, for which purpose about 3 to 4% is recommended.

CATALPO!



NEW U.S. RUBBER SIGN CAN BE SEEN ALMOST TEN MILES

The Columbus Circle rubber district of New York City is now marked by the two largest electrical signs in the world which The United States Rubber Company has recently put into operation on top of its general office building at 1790 Broadway. One of the signs faces south and the other north, both being visible for nearly ten miles in each direction.

The dominating feature in both signs is the two letters, "U.S." which are 35 feet high on the south sign and 30 feet on the north. Both signs are of the "flash" type. Underneath the huge initials in each case are catch lines alternately advertising Royal Cord Tires and "Ked" rubber footwear. The catch lines are 10 feet in height.

Fifteen hundred bulbs are required to illuminate the 35-foot initials. Eight miles of electric wire is woven and interwoven throughout the two signs.

Footwear Division Elects

F. S. Dane of the Hood Rubber Company and J. A. Rishel of the B. F. Goodrich Company were re-elected chairman and vice-chairman of the Footwear Division of the Rubber Association at a meeting on May 21. Election of officers for the Division is customarily taken care of at an annual meeting in January which was postponed this year.

R.G.A. Annual Report Shows Rapid Increase in Membership and Income

Membership Has Grown to 573 Plantation Companies Representing Over One-Third of World Rubber Production—Propaganda Donations Close to $200,000.

The Rubber Growers' Association of London has recently made public the seventeenth annual report of the Association's Council or board of directors, this report covering the year ended December 31, 1925. It is accompanied by a statement of the accounts of the Association.

The membership of the Rubber Growers' Association at the time the report was submitted consisted of 573 rubber plantation companies operating in all parts of the Middle East and 10 trust companies. The 573 companies owned 3,001,141 acres of land of which 1,426,216 were planted to rubber. It will be noted that this rubber acreage is roughly one-third of the world's total, a proportion that the Association has maintained for some time.

The authorized capital of the rubber planting members of the R. G. A. is £114,769,776 but the capital actually issued amounts to £92,845,313 which is equivalent to about $446,000,000 in United States currency.

The Association's financial statement shows that 1925 was a prosperous year. Income amounted to £18,852, practically all of which came from members' subscriptions. The expenditure account showed that a total of £16,128 was disbursed during the year. Of the total £6,680 were spent for research and general expenditure in Malaya, £2,000 for similar purposes in Ceylon and £7,183 for the conduct of the Association's central office in London.

The surplus of £2,724 remaining from the 1925 operations was added to a balance of £14,400 which was accured to the Association up to the end of 1924. The total assets most of which are invested in British government bonds now amount to £18,287, equivalent to approximately $91,000.

A separate financial statement was rendered for the propaganda activities of the Association. It showed that during 1925 £47,322 were received into the fund. Of this amount practically £40,000 was contributed by governments in the East and £7,462 were received from subscriptions. Total expenditures for propaganda were £40,500 or about $195,000. By far the greatest part of this was spent for crude rubber soles publicity in the United States. Independent expenditures were also made at exhibitions such as Wembly, and for cooperative publicity in England. The total assets of the propaganda department at the end of 1925 were £33,590.

CANADIAN CONSOLIDATED NOW KNOWN AS DOMINION CO.

The name of the Canadian Consolidated Rubber Company, Ltd., a subsidiary of the United States Rubber Company, has been changed to the Dominion Rubber Company, Ltd. by means of supplementary letters patent issued by the secretary of state for Canada. The products of the company have been known for many years under the name Dominion. The change of name is not accompanied by any change of policy or personnel but brings the operations of the company and its general purchasing, manufacturing and selling departments under the common name, Dominion Rubber Company, Limited.

A corresponding change of name will be made in the sales division of the company. The Dominion Rubber System (Quebec), Limited, being changed to Dominion Rubber Company (Quebec), Limited, thus linking the parent company more directly with the selling and distribution of the Dominion rubber products.

Construct Guayule Factories

Plans are underway for the construction of three new guayule rubber factories near Torreon, Mexico, according to a recent dispatch from that city.

New Retreader Marketed

A full circle retreader which cures a retread job all at one time is now being made and marketed by The Williams Foundry & Machine Co., Akron Ohio.

In the words of the company "It provides the one real way to produce a retread equal in both appearance and wear to the original tread." It cures the full circle at one time, thus saving time for the repairman and expense for the car owner.

The new Williams machine overcomes the unequal cure at joints that is produced by shifting tires at each cure in a third circle mold; it also produces a tread equal to the original in appearance because there can be no uneven and unsightly joints when the full circle is cured at one time.

Two sizes are made—one for passenger car and one for truck tire sizes. The shells can be furnished for various tread designs at a slightly increased cost. There is, of course, a standard design for those repairmen who do not specify a special one.

CALL ISSUED FOR LUNCHEON TO ARRANGE RUBBER OUTING

On behalf of a committee of rubber executives of Boston, Quincy Tucker has issued a call for a luncheon at the Boston Chamber of Commerce on June 14, to commemorate the semi-centennial of the arrival at Kew Gardens, England, of Sir Henry Wickam with the Brazilian rubber seeds which ultimately proved to be the foundation of the plantation rubber industry. The call for the meeting states that the luncheon guests are to decide whether there will be a New England rubber industry outing during the present summer, and to select a date in November for the annual rubber dinner in Boston.

Mr. Tucker states that there will be no solicitation for further contributions to the appreciation fund for Sir Henry Wickam's work since substantial sums have already been received.

Halligan Suceeds Sullivan

C. W. Halligan, formerly cost accountant with the Newsprint Service Bureau, the trade organization of the newsprint paper manufacturers, has been appointed manager of the accounting department of the Rubber Association of America, Inc. He succeeds F. J. Sullivan, who resigned from the Association to join the Philadelphia Rubber Works at Akron where he is now comptroller. Before leaving the Association, Mr. Sullivan completed plans for a standard system of cost accounting for rubber companies and Mr. Halligan will devote much of his time to facilitating the acceptance of the system by individual manufacturers.

Speaks at Clarksburg

Chas. E. Speaks, formerly European representative for the Firestone Tire and Rubber Company and later manager of their truck tire department in Akron, is now sales manager of the Akro Agate Company of Clarksburg, West Virginia, manufacturers of toy marbles and glass balls for industrial purposes.

Prather With India

C. C. Prather, for the last ten years with The Goodyear Tire & Rubber Company, has joined the India Tire & Rubber Company of Akron, as divisional sales manager.

LITCHFIELD ELECTED ASSOCIATION DIRECTOR

Rubber Association Board Chooses New Goodyear President to Fill Vacancy Caused by Death of G. M. Stadelman; Seger Becomes First Vice-President.

At its first meeting since the death of George M. Stadelman, formerly a director and first vice-president of the Association and president of the Goodyear Tire and Rubber Company, the Board of Directors of the Rubber Association of America elected P. W. Litchfield, the new president of Goodyear, to the Board to fill the vacancy caused by Mr. Stadelman's death. The meeting was held on May 26. Later in its proceedings Mr. Litchfield was also elected second vice-president to succeed C. B. Seger who at the same meeting was elected to the first vice-presidency. Mr. Seger had served for the past three years as second vice-president.

A formal resolution in connection with the death of Mr. Stadelman was adopted by the Directors. Reference was made to his well-known contributions to the progress of the rubber industry of the United States and to the sorrow which his death has occasioned among all those who had known him or worked with him.

Blandin Sails for Sumatra

J. J. Blandin, manager of the crude rubber department of the Goodyear Tire and Rubber Company, sailed May 22 for London on the first leg of a journey which will take him to the Goodyear rubber plantations in Sumatra. J. B. Ingle, managing director of the plantations, will leave for a vacation in the United States immediately upon Mr. Blandin's arrival. While his plans are indefinite, Mr. Blandin expects to return to the United States shortly before Christmas. If Mr. Ingle has not returned to his post by that time, the plantations will be left in charge of O. D. Hargis, the assistant managing director. George Rau, another assistant, recently returned to the United States after a lengthy term of active service.

Peachey Official Ends Visit

Mr. A. Herring-Shaw, General Manager of The Peachey Process Co., Ltd., of London, who has been in the United States for the past five weeks, returned to England on May 20. The Grasselli Chemical Co. was appointed in January, 1926, by The Peachey Process Company, as their agents in the sale and placing of rights or licenses to manufacture by the Peachey cold cure process under U.S. Patent No. 1,487,880. The Peachey process is of special interest to manufacturers of sundries and rubber textiles, to a number of whom Mr. Herring-Shaw gave full details of operation during his stay in this country. In connection with the latter its particular value lies in the fact that it has no detrimental effect on the fabrics.

Dr. David Spence

SPENCE NOW OFFICER OF INTERCONTINENTAL

David Spence, well-known rubber chemist and executive, has joined the Intercontinental Rubber Company as vice-president. From 1914 until the fall of 1925 Dr. Spence was in charge of manufacturing and development operations with the Norwalk Tire and Rubber Company. During the last several months he has traveled extensively outside the United States, particularly in Mexico where he carried out scientific investigations with guayule.

Dr. Spence began the study of rubber while assistant in the bio-chemical department of the University of Liverpool. The published results of his studies attracted the attention of A. H. Marks, then head of the Diamond Rubber Company with the result that in 1908 he was invited to visit the United States. A year later he returned to this country to build research laboratories for the Diamond company and to take charge of them. He continued that work until the merger of the Diamond company with the B. F. Goodrich Company when he took charge of the laboratories of the latter. His service in that position extended until he went to Norwalk in 1914.

A member of many scientific societies in this country, in England and in Germany, Dr. Spence has contributed largely to the scientific, technical and patent literature on India rubber. His early work on organic accelerators antedating by some years the work of his colleagues in Germany has just become known through recent litigation. During the war Dr. Spence was in charge of the Rubber Division of the National Research Council in Washington.

U.S. LEADS IN EXPORTS OF SOLID TIRES IN 1925

America Exported 112,592 Solids Compared to 69,444 for United Kingdom and 10,210 for Canada—Latter Country Has Lowest Unit Cost.

A comparison of exports of solid tires from the United States, the United Kingdom and Canada for the calendar year 1925, issued by the Department of Commerce, shows the United States to have been by far the leader of these countries in this line. Exports of solid tires from the United States during this period amounted to 112,592 valued at 3,179,597 as contrasted with 69,444 valued at £408,-451 shipped by the United Kingdom, and 10,210 valued at $248,929 from Canada. The average price of the tires shipped from the United States was $28.24, the United Kingdom approximately $28.50, and Canada $24.38. The United Kingdom was the leading market for American tires, 25,149 being shipped to that market; 15,825 went to Australia; 12,164 to Cuba; 8,499 to Japan; 6009 to New Zealand; 4,980 to the Philippines and 4,336 to Argentina. Of the British solid tires 9,873 were shipped to Australia, 7,522 to British India, 7,445 to the Irish Free State and 4,800 to Czechoslovakia.

PETERS RESIGNS AS SALES HEAD OF NEW JERSEY ZINC

The New Jersey Zinc Company has announced the resignation of Edward V. Peters as general sales manager, effective July 1. The duties of general sales manager of the company will be assumed by A. P. Cobb, vice-president, who will be assisted by J. H. Janeway.

Mr. Peters has been with the New Jersey Zinc Company since 1906, serving first as purchasing agent and later as head of the sales department. He has been general sales manager since 1919. He has taken an active part in the trade associations in which his company was interested, being honored with the presidency of the New York Paint Club in 1924 and that of the National Paint, Oil and Varnish Association in 1925. During the war Mr. Peters was especially active in government work and spent several months in Europe adjusting the affairs of the New Jersey Zinc Company to changing war conditions.

Osborn on Vacation

George W. Osborn, sales manager of the Farrel Foundry & Machine Co., Ansonia, Conn., recently started on a three weeks vacation, to be gone until the middle of June.

Business Opportunity in Germany

As your representative, I can procure for you the business of the third largest consumer of rubber in Germany. Large turnover for capable firm. Office, warehouse and good relations existing. Correspondence German, English or French. Write to: Jacob, Arnstadterstr 30, II, Erfurt, Germany.

Let this clear up all doubt

a plain statement of fact to the motoring public

Anyone who tells you that you cannot get *balloon* tire mileage today equal to that of the best High Pressure Cords is quoting from ancient history.

With the perfection of the Goodrich Silvertown Balloon all existing doubt of balloon tire performance went out of date.

Let us make this plain—let us make it brief—let us get it straight—

Silvertown Balloons deliver mileage equal to that of any Tires ever manufactured.

It doesn't cost you a single mile of distance for thousands of miles of comfort and safety.

Put Silvertown Balloons on your car and you can depend on them to give you the highest degree of satisfaction and economy.

There is conveniently located near you a Goodrich dealer ready to serve you.

THE B. F. GOODRICH RUBBER COMPANY
ESTABLISHED 1870 AKRON, OHIO
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Goodrich Silvertowns

"BEST IN THE LONG RUN"

DIESEL ENGINE USED BY BICKETT FOR POWER

What Is Said to Be First Use of Diesel Engine for Power Requirements of Rubber Factory Has Been Installed by Falk Corp. —Will Be Watched With Interest.

Beginning June 1, power requirements at the factory of the Bickett Rubber Products Corporation, matting and mechanical rubber goods manufacturers of Watertown, Wisconsin, are being taken care of by a newly installed Diesel engine, which is said to be the first use of this type of power in the rubber industry.

The Diesel installed by the Bickett Company is a 300 horse power Falk engine, manufactured by the Falk Corporation of Milwaukee, Wisconsin, and was especially designed by them to suit conditions existing in the Bickett factory. Conditions in that plant, however, are no different from those found in other rubber factories. It was found that the power requirements fluctuated very greatly owing to the demand of the rubber mixing mills when overloaded. To overcome the fluctuation a fly-wheel weighing nearly 30,000 pounds was put on the crankshaft of the engine. Directly connected to the crankshaft is an A.C. generator producing current at 240 volts which is then supplied to the various motors throughout the factory, each mill and other machine being driven by individual motors. To accommodate the new engine and generator, the Bickett Company was forced to build a new power house in the rear of the factory from which wires will lead to the main switch in the mill room. Outside power will be entirely dispensed with.

DR. H. A. WINKLEMAN WITH PHILADELPHIA RUBBER WORKS

Dr. H. A. Winkleman, technical superintendent of the tire division of The B. F. Goodrich company, resigned on June 1 to assume complete charge of the chemical laboratories and development department of the Philadelphia Rubber company both in its Akron plant and subsidiary factories. The Philadelphia Rubber company is building a new plant near Philadelphia where the chemical work also will be under the supervision of Dr. Winkleman, according to an announcement made by John S. Lowman, first vice president and general manager of the company.

Dr. Winkleman, who ranks high in the field of commercial chemistry, came to Goodrich in 1919 and last year succeeded J. D. Tew as technical superintendent. He is co-author of "Systematic Survey of Rubber Chemistry", one of the standard reference books on this subject; and he also holds a number of important patents on rubber accelerators.

CATALPO!

Harrington Appointed

Frank P. Harrington, well known to the tire and accessory trade, has been made manager of repair material and accessory sales for The General Tire & Rubber Company. Mr. Harrington's many years of experience in rubber well fit him for his new position, and his former connection with a number of well known rubber companies has made him well and favorably known to dealers in all parts of the country. His headquarters are to be at the General factory at Akron.

Stedman Returns

James H. Stedman, president of the Stedman Products Company of South Braintree, Massachusetts, returned May 25 from Europe where he spent several weeks in investigating European manufacturing and market conditions, particularly with reference to rubber flooring.

FILIPINO CORPORATION WILL PLANT RUBBER

New Company Leases 2,500 Acres in Cotobato; Thousands Apply for Small Tracts under Government Plan; Legislature to Consider Firestone Proposal in July.

The first Filipino rubber corporation to be formed since the government of the Philippine Islands rejected suggestions for a liberalization of the land laws has been launched. It is known as the Visayan-Mindanao Company and has been granted a lease of 2,500 acres of land in the Cotobato province for a period of fifty years. The company is starting to plant 2,000 acres in rubber and the remainder in other crops, either hemp or cocoanuts. A Filipino graduate of the College of Agriculture is scheduled to take charge of the Visayan estate.

The formation of the Visayan-Mindanao Company is in keeping with the evident desire of the Filipino government to have the rubber lands of the southern islands developed in small blocks by a large number of companies, particularly by Filipinos. It is expected that numerous other small companies will be formed in the near future, and it has been reported that the Bureau of Lands has already received 4,000 applications for small tracts. The Philippine government will assist the new planters in securing rubber seeds.

Political opinion in the islands is reported to be as positive as ever against any change in the land laws so that large corporations might receive more than 2,500 acres for development. The proposal recently drawn by Harvey Firestone, Jr., during his visit to the islands does not appear to be receiving any more favorable consideration than has been granted similar propositions in the past. The Firestone bill called for the leasing of 150,000 acres for seventy-five years. Such an acreage was meant to be the nucleus of the rubber development of the southern islands. The Filipino officials seem to prefer to have the entire development in small blocks without any large nucleus.

A Manila dispatch states that the Firestone proposal has been sent to the Philippine Agricultural Congress with the recommendation that it be reviewed and transmitted to the Legislature which meets in July. Meeting the Firestone terms would mean changing the land laws.

The rumor of a curtailment of Firestone Rubber Plantation Company operations in Liberia persists, but is still without confirmation by the parent company.

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SOLE PRODUCERS OF PURE **ASBESTINE** SPECIALLY PREPARED FOR USE IN RUBBER
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Rubber Experts Present Papers At S.A.E. Meeting At French Lick

B. J. Lemon Speaks on Drop Center Rims and R. W. Brown on Riding Quality Tests.—Meeting Brings Out Leading Automotive Engineers To Listen To Interesting Papers.

B. J. Lemon and Roy W. Brown, research engineers of the United States and Firestone tire companies, were contributors of interesting papers at the semi-annual national meeting of the Society of Automotive Engineers held at French Lick, Indiana, June 1 to 4. J. W. Reid, who has represented the Rubber Association of America in Washington since certain work of the Bureau of Public Roads has been under way, collaborated with J. A. Buchanan of that Bureau in the presentation of a statement concerning the "General Results of the Cooperative Motor Truck Impact Tests."

The subject of Mr. Lemon's paper was "Balloon Tires for Drop-Center Rims" and he stated that a discussion of the matter appeared particularly timely and important since the drop-center rim was already being fitted on 80 per cent of the new model British cars. Mr. Lemon reviewed the history of drop-center rims briefly and attempted to enumerate the points for or against their adoption.

The adoption of such rims, according to Mr. Lemon, would mean that tire changing would become a simple, easy process, without the necessity of removing the rim from the wheel and using tools. Also the wheels would be much lighter and cheaper.

On the other hand, the adoption of drop-center rims and tires to fit them would further complicate the present muddled wheel and rim situation. The complications for the tire industry would be less than for the wheel and rim industries.

Mr. Brown's paper was entitled "Instrumentation and Results of Riding Qualities Tests." The difficulties of setting up apparatus for accurately and conveniently measuring the vibrations which occur when a motor vehicle is passing over the road were first described but the description was happily followed by a statement that the design and construction of several new accelerometers (as the instruments are known) indicates that the measurement of the riding qualities of different riding equipment will ultimately be possible. In fact, an elaborate machine has been constructed which will produce simple harmonic motion to a very high degree of accuracy. It is regarded as a long step in the right direction.

Gains Must Be Compensated

Mr. Brown pointed out the fact that tires must withstand several conflicting conditions and one of these can only be emphasized at the sacrifice of some other one. Comparatively recent developments in cushion tire construction have produced cushion tires having better riding qualities than formerly. The speaker said that it must be remembered, however, that this additional tire cushioning effect has been secured by at least a partial sacrifice of other desirable qualities.

The paper of Messrs. Reid and Buchanan was in reality a progress report on the motor truck impact project now being conducted by the United States Bureau of Public Roads near Arlington, Virginia, in cooperation with the Society of Automotive Engineers and the Rubber Association of America. The tests were instituted during 1923 but have not been continuously carried out on account of the necessity for developing suitable instruments. The primary objects of the project are to determine how cushioning effect is influenced by the various tire, truck and road factors and how road stresses are influenced by motor truck wheel impact. The results of the tests were graphically shown by means of lantern slides with which the entire paper was illustrated. The work at Arlington is to be continued.

THE NAUGATUCK CHEMICAL COMPANY
Materials for the Rubber Goods Manufacturer
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VGB is being used in an enormous amount of high grade rubber goods, but this is by no means its only application.

The improvement in ageing which VGB imparts to cheap high reclaim stocks, especially those containing poor ageing fillers and reclaims is remarkable.

A little experimenting will enable the compounder to use VGB in these cheap stocks without increasing the compound cost — in fact these stocks can usually be made both cheaper and better.

We will do the re-compounding and testing of recipes for those who do not have the facilities to do this work.

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1790 Broadway New York City

Standards Certification Plan Rejected by Many in Industry

Rubber Manufacturers Find Fault With Proposal of Bureau To Widen Use of Federal Purchasing Specifications and Many Withhold Co-operation.

Invitations from the Bureau of Standards for rubber companies to list their products as conforming to the specifications under which government purchases are made have been rejected by a majority of the companies. The government bureau is making an effort to popularize the use of Federal specifications by purchasers generally, particularly state and municipal governments and large industrial users. This is to be done through the distribution of lists of manufacturers who have certified that their products are manufactured to meet the conditions demanded when some Federal department or independent establishment of the government is in the market. It was the invitation to make such certification that the companies have declined to accept.

The certification plan is intended to apply to all goods for which the government has specifications. A wide range of products is covered, there being several lines of rubber manufactures among them. Consequently, nearly all the rubber manufacturers in the country are eligible to participate.

The refusal of many rubber manufacturers to join in the plan is said to be based on their belief that the Federal specifications covering rubber goods are not generally satisfactory and that no good use would be served through encouraging a wider use of them. In fact, some manufacturers feel that a common adoption of such purchasing practice would be a real barrier to rubber manufacturing progress. If large purchasers became accustomed to ordering and accepting goods on the basis of their meeting certain conditions specified by a government department, it is believed that developments and improvements in products would be retarded. Furthermore, manufacturers who have made large expenditures in establishing trade names which the public accepts as a guarantee of the quality of their merchandise are not eager to scrap such investments. Buying by specification would also tend to decrease the contact between the manufacturer and his customers which is regarded as essential in adapting goods to make them serve most satisfactorily.

On account of the unusual degree of skill required in rubber manufacture, it has never been easy to formulate effective specifications for rubber goods and to keep them up-to-date. That fact has undoubtedly accounted for the frequent protests which have been made against the Federal requirements. Rubber factory executives have pointed out that quality in their products cannot be assured by any specific method of manufacture or quality of materials since two plants proceeding along identical lines will frequently produce varying qualities of goods.

The plan of the Bureau of Standards for standardizing purchasing specifications throughout the United States is understood to be progressing more satisfactorily in the case of other industries. It is presumed that it will be carried through as planned, even in the case of rubber, although large rubber goods purchasers throughout the country will probably fail to make extensive use of the Bureau's proffered lists if the names of many of the principal manufacturers are missing.

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There is nothing else *even remotely* like it!

We challenge comparison with carbon black in high grade treads; with reclaim in competitive treads; with zinc oxide in solids; with thermatomic carbon and blanc fixe in inner tubes and carcass stocks.

Comparison on a quality basis entirely.

A sweeping statement? The proof is ready.

Cost basis? Incomparably cheaper.

Our Technical Men Will Call at Your Request.

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33 Rector Street, New York, N. Y.

Sole Licensees and Producers in the United States.

THOUSANDS ATTEND OPEN HOUSE AT HEWITT PLANT

Thousands of people interested in learning how rubber goods are made took advantage of the invitation of the Hewitt Rubber Company to visit its Buffalo plant during a special "open house" week in May. The factory was open to the general public every day from four o'clock in the afternoon until 10 o'clock at night and a staff of expert guides was on hand to explain the various processes.

On certain days during visitors' week J. F. Palmer, the well-known tire inventor who is now on the technical staff of the Hewitt company, received the visitors and assisted in explaining tire manufacture in which most of them were particularly interested. The belting and tiling departments also attracted attention.

John H. Kelly, president of Hewitt, took the opportunity to recall the growing prominence of Buffalo as a rubber manufacturing center which he thought might be ranked next to Akron. The Dunlop plant, the Tucker Rubber Company, the Hewitt factory and more recently the latter concern's acquisition of the Gutta Percha Company were mentioned by Mr. Kelly as examples of Buffalo's importance in the field.

Kidder Leaves Dunlop

E. H. Kidder has resigned as general sales manager of the Dunlop Tire and Rubber Company at Buffalo where he has served since 1923.

Receiver's Sale in Equity

Schafer & Meyer vs. Bergougnan Rubber Corporation

Valuable Manufacturing Property

Machinery and Equipment

(Lot Approx. 9 1-2 Acres) of the

Bergougnan Rubber Corporation

Trenton, N. J.

FRIDAY, JUNE 18, 1926, AT 11 A. M.

Daylight Saving Time on the Premises

REAL ESTATE—Valuable manufacturing realty, lot approximately 560x357½ ft., improved with seven modern manufacturing and office buildings of concrete and brick construction. Total floor area 90,379 sq. ft. Also a valuable manufacturing site, approx. 595x357½ ft. Pennsylvania railroad siding into the plant.

MACHINERY AND EQUIPMENT—Birmingham and Thropp calenders, Birmingham rubber washing mills, Birmingham rubber mixing mills, Peerless rubber cutter, Thropp washing tank, Devine vacuum steam heater dryer, Dexter flap making machine, Thropp bead building machine, Thropp tire making machines, hydraulic vulcanizing presses, hydraulic cold press, combination vulcanizers and presses, calender and rubber mill, dryers, Southwark heater press, Williams blow-out, patch and repair vulcanizers, Allen inner tube skiving machine, Hunter dry kiln system, Spadone cutter, Cameron slitting machine, small tools and small machines, tire and tube making equipment. Also machine tools, including Reed-Prentice and Pond screw cutting engine lathes, Barnes drill press, Bullard boring and turning mill, Smith cross-cut, rip and dado machine, electric motors, office furniture and fixtures, cafeteria equipment, auto trucks, automobiles, etc.

By order of CHARLES E. STOKES, Receiver.
BILDER & BILDER, Esqs., 60 Park Place, Newark, N. J.
Attorneys for Receivers.

Descriptive Catalogue on Application to

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GENERAL EXPANDS ACCESSORY OUTPUT THROUGH NEW SPACE

Recent completion of factory additions which provide adequate space for operations is enabling the General Tire and Rubber Company of Akron to proceed with the manufacture of a full line of tire repair materials and accessories in a more extensive way than has been possible in the past. A constantly expanding market for such goods is being found by the company's officials whose experience in their manufacture began fifteen years ago when the General factory was located at Kansas City and the decision to move to Akron had not yet been made.

London Motor Show Dates Set

The annual London Motor Show which regularly attracts many American visitors, particularly from the tire and automobile industries, will be held this year from October 21 to 30. The usual space in Olympia, Kensington, London, will be used. The exhibition is arranged by the British Society of Motor Manufacturers and Traders, Ltd.

Dirigible Plans Completed

Non-stop flights from New York to San Francisco in 40 hours or less may be a common occurrence when the gigantic dirigible now proposed by the Goodyear-Zepplin corporation is built. Dr. Karl Arnstein of that company has announced the completion of plans for the 800-foot air leviathan. The craft will have a cruising radius of 5,000 to 8,000 miles at 90 miles an hour, and a capacity of 6,000,000 cubic feet as compared with the 3,500,000 of the Los Angeles. It will be 135 feet in diameter and will have accommodations for 100 passengers.

U. S. Tire Imports

Only 100 tires were imported into the United States during April at a total valuation of $1,175. Of this number 36 tires valued at $459 were imported from France, and 23 valued at $291 from Great Britain.

Increases Capital Stock

The Servus Rubber Company, of Chicago, has recently increased its capital stock from $1,500,000 to $2,000,000. This concern, whose plant is located at Rock Island, Ill., manufactures rubber and canvas rubber soled footwear. J. J. Adams is president.

Fire Protection Association

On behalf of the Mechanical Rubber Goods Manufacturers Division and more particularly the rubber fire hose manufacturers, the Board of Directors of the Rubber Association on May 26th voted unanimously to place the Association on record as endorsing and supporting the field work of the National Fire Protection Association.

COLUMBUS TIRE FACTORY TO REOPEN LATE IN JUNE

Plans just announced contemplate the reopening late this month of the plant of the Columbus Tire and Rubber Co. at 555 West Goodale Street, Columbus, Ohio, following a period of idleness, since last October.

Walter H. Hermann, president of the Hermann Tire Building Machine Co. of Columbiana, Ohio, will have charge of the factory, following a reorganization which stockholders authorized recently. Most of the former employees of the company will return to work, with a force of about 100.

Almer Simons, Columbus wholesale dealer in coal, is now president of the company, succeeding John W. Zuber, who now is secretary. Veit A. Koerner is treasurer. Directors are R. M. Randolph, A. Marks, Charles Hautzenroder, W. S. Meighan, A. Simons, J. W. Zuber and V. A. Koerner.

The company has just been granted a charter to operate, re-capitalized at $150,000 in preferred stock, and 2000 shares of no-par common stock.

ASSOCIATION NEUTRAL ON METRIC SYSTEM ADOPTION

At its meeting on May 26th, the Board of Directors of the Rubber Association gave further consideration to requests that the Association place itself on record with one side or the other in the controversy concerning the adoption of the metric system of weights and measures instead of the English system now generally in use in the United States. This subject had come before the Association board at various times during the last five years. As before, however, it developed that there is a substantial division of opinion among Association members and consequently, the Association will continue to maintain a neutral attitude toward the matter.

Broers Returns

Samuel Broers, export manager of the Firestone Tire and Rubber Company has returned from a three months' business trip to South America. Mr. Broers visited branches of the company in Buenos Aires, Montevideo and Sao Paulo, and also spent some time in Rio de Janeiro and Santos.

Oil Institute Conference

N. G. Bruce of the Godyear Tire and Rubber Company, W. W. Evans of the B. F. Goodrich Company, and A. D. Kunze, assistant secretary of the Rubber Association of America will represent the Mechanical Rubber Goods Manufacturers Division of the Association at the standardization conference of the American Petroleum Institute to be held in Colorado Springs, Colorado, June 15 to 17. The members of the Division are suppliers of important quantities of rubber belting to the oil fields.

Chamberlain Returns

K. S. Chamberlain, president of the Fisk Tire Export Co., Inc., is back in the United States after a four months stay in Great Britain where he was conferring with officials of the Fisk Tire Co., Ltd., of London which distributes Fisk products throughout Europe.

SHIELDS NOW CHEMIST WITH MOORE & MUNGER

William H. Shields, well-known chemist with the C. Kenyon Co., Brooklyn, for the past four years is now connected with Moore & Munger, New York City, producers of Catalpo. Mr. Shields was chief chemist at Kenyon at the time he resigned last month.

In his new connection Mr. Shields will take charge of the technical development of Catalpo in compounding and will assist rubber manufacturers in working out any problem of mixing or dispersion attendent on the high pigmentation which is made possible by the use of this well known material.

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WEEKLY MARKET REVIEW ON REQUEST

Litchfield on M.I.T. Board

P. W. Litchfield, president of the Goodyear Tire and Rubber Company, has been elected a member of the Board of Directors of the Massachusetts Institute of Technology from which he graduated in 1896. Among Mr. Litchfield's fellow students at the Institute were Irenee DuPont, president of the DuPont Company, Alfred P. Sloan, Jr., president of the General Electric Company, and Roger Babson, the economist.

Southern Tire Expands

The Southern Tire and Rubber Company of Augusta, Georgia, is installing additional machinery which it is said will result in an increase of its daily tire output from 450 to 750 tires per day. The company now employs 200 men, and, according to the management, this expansion will provide employment for approximately 75 additional men. Tires and tubes are manufactured exclusively. W. A. Smith is president.

Plantation Company Formed

The incorporation of the Mindorsa Rubber Plantation Company of Newark, N. J., has been announced with 2,500 shares of no par value stock. The stated purpose is the cultivation and production of rubber. The incorporators are Jean A. Blanchard, J. F. Dorsey, and Edward H. Schwartz.

Reclaimed Rubber for Inner Tubes

A reclaimed stock suitable for inner tubes is not the easiest stock to make. Such a grade must be clean, age well, mix easily, and cure with good resistance to wear. If you have not tried our

No. 188 GRADE

for Inner Tubes

Let our technical staff write you about it.

The Philadelphia Rubber Works Company

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52 Vanderbilt Ave., New York City.

Land Title Building, Philadelphia.

HOUSATONIC MACHINE ADDS MORE EQUIPMENT

The Housatonic Machine & Tool Co., Staples St., Bridgeport, Conn., have recently added new equipment and additional space to their factory to take care of the increasing demands for their rubber strainers, tubers and insulators. This company also designs special machinery for the rubber industry and manufactures steel, cast iron and soft metal rubber molds and dies. The rubber strainer made by this company is well known to rubber manufacturers. It is equipped with the Weir patent head and is made with a removable close grained bushing, SKF ball thrust and cut gears, suitably guarded. J. W. Weir is President and General Manager.

O'Neill Leaves Goodyear

Joe O'Neill has resigned his position as head of the cafeteria of the Goodyear Tire & Rubber company after nearly ten years of service to become manager of the advertising and sales promotion department of the Imperial Electric company at Akron. O'Neill has been one of the best known Goodyear workers, having directed the sale of Liberty bonds in the Akron factories during the war. He is secretary of the East Akron Board of Trade and served for two terms as a member of the Akron city council. He was given a farewell banquet by his associates at Goodyear on June 1.

Burton-Wade Moving

The Burton-Wade Rubber Company of Los Angeles expects to be operating soon in its new factory which is nearing completion. A considerable increase in demand for the tire accessories manufactured by the company is responsible for the move. Important shipments of accessories have been made to the Hawaiian Islands. E. W. Hendrick is president of the company.

Kelly Speaks at Seattle

C. A. C. Kelly of the B. F. Goodrich Company, Akron, was a recent visitor to Seattle where he addressed a meeting of architects and builders on the advantages of rubber flooring.

Lincoln Perfects Glove

The perfection of an improved household rubber glove has been announced by the Lincoln Rubber Company of Barberton, Ohio. A superior finish is claimed for the article which was tried out locally for some time before it was put in regular production. The company manufactures rubber gloves exclusively.

CATALPO!

EDITORIAL COMMENT

Beginning the New Job

The resolution of the new management of THE RUBBER AGE to get through the first issue, and as many issues thereafter as possible, without the use of superlatives has been defeated by the kindness with which the entrance of the company into the rubber publishing field has been received. Executives, advertisers, old readers, contemporaries, and many others have joined in the welcome. To attempt to describe the cordiality of their reception would call for some of the best words in the dictionary.

Because any expression of thanks that could be made in this column would be inadequate, none will be attempted. It is perhaps only in doing a helpful, workman-like job on every page and in every issue that our true appreciation may be shown and to that task we dedicate ourselves unreservedly.

As the management has stated and written several times during the last few weeks, the taking over of THE RUBBER AGE does not mean any radical change, either in that paper or in the general publication of rubber news. The task is simply to improve and enlarge the paper until it becomes the important unit in the rubber publishing field that it was designed to be. That will mean doing some things that THE RUBBER AGE has not done before and perhaps some that no part of the trade press of the industry has attempted. And it will mean doing all of them in a better way.

The primary service of the trade press is a complete and convenient presentation of the news and facts that interest and benefit one particular section of the business world. It appeals to the business man because it is a logical step in specialization. An industry would receive news about itself if only the daily papers existed, but the convenience, regularity, and extent of it would be sad to contemplate. On the score of accuracy, the result would surely leave much to be desired also, as has been so often demonstrated during the last few months when the daily papers have made an unusual effort to inform the public about rubber. The technical articles and features of interest to the industry alone could not of course command space at all in general media.

The twice-a-month appearance of THE RUBBER AGE gives it an advantage in the presentation of news and features of which it intends to take full advantage. Through such an arrangement, news may be presented while it is still news, and features while they are timely. Happily, timeliness and readability need not mean any forsaking of reliability or conservatism. Thus, in addition to serving the rubber industry efficiently in an informational capacity, THE RUBBER AGE expects to be able to interpret it faithfully to those who, while interested in it, are not a part of it.

Standard Specifications

There may be some industries which will be benefitted by the present effort of the Bureau of Standards to encourage a much wider use of the commodity specifications used by the Federal government in purchasing, but is likely that there are many which will share the feeling of the rubber industry that the movement has for them greater possibilities for harm than for good. The plan, in brief, is to encourage states, municipalities and large industrial users to purchase needed commodities according to the specifications used by the Federal departments and independent establishments. To facilitate their doing so, the Bureau of Standards would furnish on request a list of the companies willing to certify that their products are manufactured to meet the Federal requirements. The lists would be compiled from applications filed by the manufacturers with the Bureau of Standards.

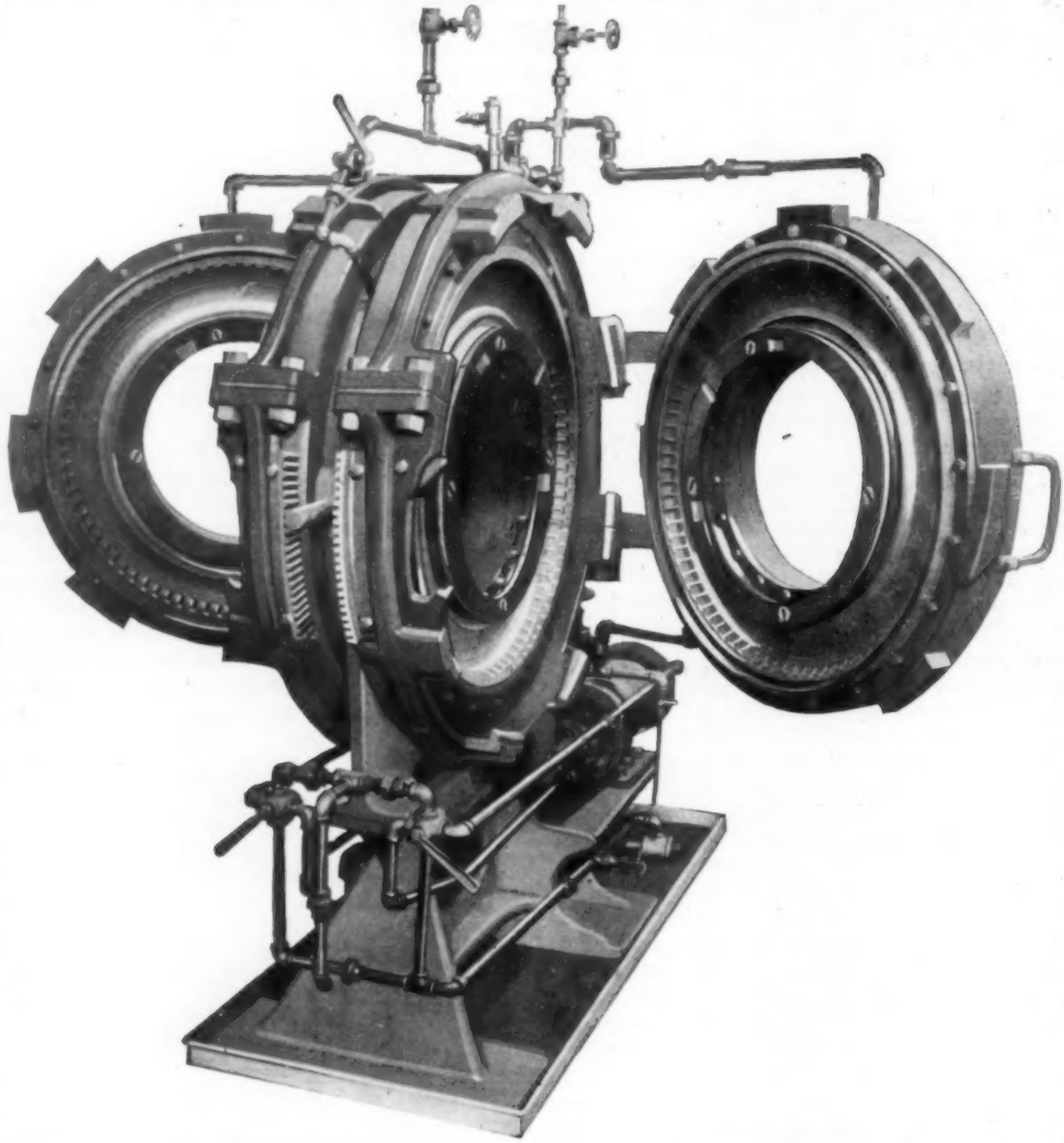
The greatest flaw in such a plan of standardization is of course the character of the Federal specifications themselves. Although the Specifications Board was assigned the task of bringing the specifications of the government into harmony with the best commercial practice wherever conditions permitted, insofar as the rubber industry is concerned it has been more successful in maintaining a set of specifications so far removed from good commercial practice that many rubber companies who manage to find a wide and satisfied clientele among industrial users have quit worrying themselves about government business. There may be industries for which the Specifications Board has been more successful in carrying out its task but they are likely among those in which less craftmanship is required in manufacture than is the case in practically all sections of the rubber industry. Conceivably, a sensible, standard specification might be written more easily for cast iron pipe than for an automobile tire.

The reply of the Bureau of Standards to such criticism is to the effect that if the specifications are faulty, broadening their use will force correction. That seems to be putting the cart before the horse. If poorly-conceived specifications have been difficult to change when used for Federal purchasing alone, their revision would surely be more cumbersome after their adoption by hundreds of purchasers. The rubber industry may well oppose the spread of specifications which it believes to be faulty.

Friends of Restriction

The latest change in the British rubber restriction scheme renders its defense in this country a more difficult matter. Indeed, the same might be said of England also, judging from the comparative silence with which the revision was greeted. In a statement in another column of this journal, H. Eric Miller records his satisfaction at the support given the British cause by prominent American bankers and editors when the Hoover protests were loudest. He would notice a changed tone today, based on a growing suspicion that there may be something to condemn after all. The British rubber grower has always had more friends on this side of the Atlantic than he has suspected, but it will not be surprising if they are found to fall away from a cause that becomes constantly more difficult to defend.

The Curing Room



BATTERY of 16 Akron Standard Power Vulcanizers in operation in the plant of the Pharis Tire & Rubber Co., Newark, Ohio

The London Letter

The GENTLEMAN FROM MINCING LANE will report current opinion in London's famous rubber market in every issue of THE RUBBER AGE

This week the Gentleman says "Let Us Pray".

LONDON, May 27, 1926.

THE END of May finds the London rubber market quite unaffected by the general strike which so completely absorbed British attention and dominated the whole industrial and commercial situation. Rubber-growing companies' shares in London remained firm during the upheaval, and from the growers' viewpoint the effect of the strike on rubber consumption should not be unfavorable. Any immediate drop in rubber consumption by British manufacturers due to the interruption of their business was probably more than offset by the increased wear on the tires of the miscellaneous and ofttimes antique motor vehicles brought out of retirement temporarily—and indeed in many cases, permanently—by the sudden stoppage of rail transportation.

The meteoric strike did, however, interrupt somewhat the British contemplation of the possible effects of the new Stevenson restriction regulations announced by the Colonial office late in April. As is now well known, the Stevenson plan was amended so as to permit a 20 per cent reduction in permissable exports from Malaya and Ceylon in the August-October quarter should the average London price during the present quarter fall below 1/9 per pound. The standard figures for large and small estates respectively were also revised upwards.

The strike over, Rubber London began speculating as to just what this increase in the fixed standard for individual estates might mean in terms of this year's production, and guesses ranged from the top figure of 15,000 tons, which was the estimate of the Malayan Planters, to the 7,000 to 8,000 tons of the writer in the magazine called *"Truth"*. In any event, it is plain that the possible increase is not of much importance, in fact, it is insignificant as a factor favorably affecting the supply of raw rubber when contrasted with the possible negative effects which may follow on as a result of the other half of the Government's announcement—the restriction in supply should current prices definitely fall below 1/9 per lb.

THE LONDON price of rubber has quite steadily declined since January. London stocks have just as steadily advanced from 9,113 tons on February 20 to 19,338 tons on May 8. Reports in London also show that stocks in the United States are increasing. Reductions in Malayan and Colombo dealers' stocks during the month of April were small compared with the advance in London.

The larger growers controlling about 70,000 tons of annual output naturally were concerned about the steady decline in values, and arranged a gentlemen's agreement among themselves informally to stabilize the then price of 2/6 per lb., to sell freely at 2/9 per lb., and withhold when the market reached 2/3, thereby aiming as rapidly as possible to get control of as much raw rubber stocks as obtainable. This was to be done individually, each estate planning to hold one-twelfth of its annual output with the objective of preventing another speculative ramp this year, as well as preventing undue price depression.

It seems that this plan became fairly popular and indications are that it was taken up by a number of companies other than the original groups. That it was none too successful is evident from the course of prices in recent weeks, an outcome probably due to the fact that it did not have, as yet, a wide application. Of course, there are other factors as well. *The scheme is still being held to by those pledged to it.*

Based on their analysis of the statistical position, the promoters of this gentlemen's agreement believed that production and consumption totals this year were not far apart, possibly 25,000 tons available excess, so that by holding this quantity of rubber they would be in a position to hold a balance of power and with it control the price. The steady fall in values later led them to think that possibly their statistics were wrong, and that there might be 50,000 tons excess instead of 25,000 tons this year. The informal co-operative plan might not, therefore, be strong enough to meet the situation and hold up prices to reasonable levels (to hold them down to reasonable levels was a secondary objective, but admittedly not a matter for importance at the immediate moment).

JUST AT this time the Colonial Office announcement was due, the Stevenson scheme having reached 100 per cent, and some statement of revision was expected. Under the circumstances it was found desirable that this revision should involve the pegging of prices at 1/9, as has already been described, a revision aimed to support the weakening market. This it has done, and sufficient support for the rubber and rubber share markets has been forthcoming, even through the general strike, and with America producing and consuming substantially larger quantities of reclaimed rubber.

In certain quarters there is justification given for the new revision of the Stevenson scheme on two grounds, first, that it is advantageous to manufacturers as well as producers that prices should not go too low in view of the fact that considerable forward buying has been arranged by manufacturers at 2/6 to 3/- per lb., and second, that the stimulus to new planting resulting from higher priced rubber would be removed in case values

fell much further. Quite a large number of estates are increasing their acreage five or ten percent.

It is not known in London what the next developments are to be on the Stevenson plan. If the 80 per cent provision should take effect in August-October, then what; down to 60 per cent, or up to 100 per cent? Some hold the opinion that it is more desirable that changes in the restriction scheme should be made on a hand-to-mouth basis adaptable to meet changing conditions rather than to lay out a fixed plan for months or even years ahead regardless of the developments of a fickle commodity like raw rubber.

If an 80 per cent restriction should obtain this fall, the question arises: might it not come just at the time when prices naturally are due for another rise? American and other buyers have purchased forward heavily, some think to an extent equal to 25 per cent of the 1926 British crop, and much more of the 1926 Dutch crop. These contracts run out in June and July, and fresh arrangements must be made.

On the other hand, this potential bull factor may be offset by a drop in the American demand this fall, and again by the rapidly increasing American conservation and reclamation program, a factor not taken seriously thus far in London. Then, too, each of the last two quarters has seen an increase in the unused export licenses held by Malayan growers, amounting to 9,615 tons on February 1st, and probably 20,000 tons, or more, on May 1st. It is quite reasonable to expect that this unused reserve will continue and increase through the summer. Such licenses can be used by the growers holding them in case prices begin to rise in the Fall, that is, if such action is made desirable by the reduction of the exportable total to an 80 per cent basis for the autumn quarter ending October 31. These licenses would be valuable to their holders as they would permit the exportation of more than the 80 per cent allowance during at least the first month of the new quarter.

While the practice of shipping increasing quantities of crude rubber direct from the producing countries to the United States may have lessened England's importance as a secondary rubber market, the preponderance of British investment in the rubber plantation industry keeps London the crude rubber capital of the world. And of that capital, Mincing Lane is the center. *The Rubber Age* is fortunate in having completed an arrangement whereby a gentleman familiar to London's rubber center will write a fortnightly letter about the latest opinion and happenings there.

The lull in the rubber market provides an opportunity for writers to reflect on past events and to speculate as to the future, the latter being likely a futile pastime when handling so elusive and surprising a subject as rubber, which, it must be admitted, usually refuses to be led or prodded on from the rear. Let us pray that "outside speculation" as to the future may be limited strictly to writers and others with no money to gamble on their conclusions and thereby help to upset the market's balance. And may all intelligent persons, wherever situated, growing, fabricating, or consuming rubber devoutly worship their god Stability (at fair prices, of course), praying for more concrete answers this fall to their petitions than have yet been given, with or without Lord Stevenson's help.

Yours Faithfully,
THE GENTLEMAN FROM MINCING LANE.

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Rubber Production in Africa

Fifth Crude Rubber Survey Report of Commerce Department Discusses Chances for Successful Plantation Development

THAT AFRICA may once more be able to reach an annual output of 20,000 tons of wild rubber and also claim an important share of the rubber acreage which is expected to be planted throughout the world during the next few years is the hope expressed in "Rubber Production in Africa", a 135-page report which has just been released by the United States Department of Commerce. The publication is the fifth in the Department's crude rubber series and deals completely with the rubber production possibilities of tropical Africa. The authors are Dr. H. N. Whitford and Alfred Anthony, special agents. The former was in charge of the Department's rubber investigations throughout the world.

If an annual production of 20,000 tons of wild rubber could be reached, the peak years of 1906 and 1910 would be equalled. In other years important quantities were shipped and the average annual output for the period 1900 to 1913 would not be far below 20,000 tons. Since 1912, a very small portion of African rubber has come from planted trees.

The report states that the main source of African wild rubber was a belt extending across the continent and reaching from 8° north of the equator to 6° south of it. This belt contained many districts having climatic conditions suitable to the best development of rubber trees but considerable quantities of wild rubber were gathered, however, in drier regions, some of which extended outside the equatorial belt. Small quantities of rubber from Madagascar, Mozambique, and Rhodesia were included in Africa's output.

From the standpoint of transportation facilities, the African countries bordering the Gulf of Guinea were the most favorably situated, and the rubber trees there were fully exploited. However, the best rubber growing lands of Africa were found to lie more in the interior, and the result was that the rubber gatherers made their way, as best they could, up streams and trails into regions far removed from the coast.

It was not species of Hevea that contributed most to the African wild rubber shipments, but plants belonging to the family *Apocynaceae*. The principal contributing tree in this family was *Funtumia elastica*. Large quantities of rubber were gathered also from various vines and so-called shrubs that belonged mainly to the genus *Landolphia* and other closely related genera. Numerous other species of plants contributed small quantities of rubber to the African shipments, among which may be mentioned *Ficus, Euphorbia,* and *Cryptostegia,* the latter belonging to the milkweed family.

The main cause for the decrease in the shipments of rubber in Africa was the drop in price, but the report points out that there were other contributing factors as well. Since much of the wild rubber was coming from German colonies, the African shipments fell off sharply in 1914 when the World War began. The War hindered the production of rubber in other colonies also, particularly in those in which the collection of rubber had been fostered by German traders.

A great barrier to a recovery in the amount of wild rubber exported from Africa in case prices strengthened materially would be the fact that practically all the wild plants from which rubber is gathered are of such a nature that the cheapest method of collecting the latex is to destroy the plants. This applies to trees as well as to vines. Practically all of the countries have passed laws prohibiting the collection of latex by the destruction of the plants, but due to the fact that much of the rubber was gathered in outlying districts over large areas, it has been impossible to enforce these regulations. Where they have been enforced, there has been a notable decrease in the amount of rubber produced. Securing latex by tapping the standing plants instead of cutting them down before extracting the latex is a slower and more expensive process. Unless the plants are destroyed, a higher market price for crude rubber will be necessary to encourage future exploitation.

In the opinion of the authors of the report, it is quite probable that should the price of rubber remain at a fairly high level for a considerable number of years, there will be a reorganization of the rubber collecting industries in various parts of Africa, but they doubt if the production of wild rubber in that country will ever again reach the figures attained in the past. Many of the old regions have been almost depleted of their rubber-producing plants by the destructive collection methods. The opening up of new regions by improved transportation facilities would, no

Fig. 1. Map of Africa Showing the Regions in Which Para Rubber May Be Produced.

doubt, be the most effective means of boosting the African output. The authors point out that certain of the colonies that formerly depended on rubber production have, during the period of lower rubber prices, encouraged the planting of crops of various kinds under the control of both Europeans and natives. Such projects now command most of the labor which would be needed for rubber gathering.

In the first decade of the present century colonial officials and commercial companies in nearly all sections of tropical Africa encouraged the planting of rubber since the possibilities of profitable rubber culture were receiving considerable publicity in connection with the development in the Middle East. Early planters tried practically all of the wild species that were producing commercial quantities of rubber. These included *Manihot, Castilla, Funtumia elastica, Ficus elastica, Landolphia, Hevea brasiliensis* and others.

Largest Acreage was in Tanganyika

German East Africa (now Tanganyika Territory) stood first in the acreage devoted to rubber. In 1912, 113,000 acres had been planted, all but 1,000 acres of which was Ceara. While more than 1,000 tons, mainly Ceara, were exported from German East Africa in both 1912 and 1913, the report of the Commerce Department states that in 1914 the German planters had begun to replace many of the areas devoted to Ceara with other crops since the cost of tapping was so high that profitable returns could not be obtained. At the outbreak of the war these plantations were entirely abandoned.

With regard to the present planted acreage of Hevea rubber in Africa, the report states that available statistics are generally misleading due to various reasons. However, it is estimated that there is the equivalent of about 38,000 acres of planted Hevea in Africa today. Of this 16,000 acres are in Uganda, 8,000 in Nigeria, 7,000 in the Cameroons under British mandate, 5,000 in the Belgian Congo and 1,400 in Liberia.

While it cannot be said that rubber planting in Africa has been successful, the report stresses the fact that the failure is not entirely due to physical conditions or to adverse economic features such as labor shortage or poor transportation. Unfortunately, energy was lost in planting uneconomic species before the superiority of Hevea had been established. From a purely agricultural standpoint, it appears certain that in selected districts of tropical Africa Hevea would grow and yield in favorable comparison with Malaya and Ceylon.

Capital Costs Are Low

From the data available the authors are unable to state positively whether under existing economic conditions rubber could be produced in Africa in competition with the European-owned plantations in the Middle East, although due to the general practice of mixed agriculture in Africa, rubber has been brought into bearing in Africa at much lower costs than in the East. The difference in practice prevents a reliable comparison between the capital cost of planting Hevea in the two regions. Due to mixed agriculture some planters in Uganda have figured the cost of bringing an acre of rubber into bearing at almost nothing, while others have estimated it at around £15.

The area of tropical Africa within which the authors of the report believe climatic conditions are more or less favorable to the growth of Hevea rubber is outlined in Figure 1 which shows part of a map published in connection with the report. Since this one of the rubber reports of the Department of Commerce was not based upon actual investigations by field explorers, the authors have judged the suitability of the designated area from the data available on present plantings of rubber, both experimental and commercial, and have expressed the opinion that large acreages might be found within the area where climate and soil would be sufficiently favorable to allow Hevea to yield returns that would compare favorably with the average yields in the Middle East. They point out that a careful study of the variations of soil and climate within the area would be necessary before the best districts could be located. In some places the rainfall is known to be excessively heavy for a part of the year while in others there is a more strongly stressed dry season.

Production (Exports) of Crude Rubber, Equatorial Africa, 1900-1923

Years	British	French	Belgian	Portuguese	Cameroons	Togoland	Liberia	Total
	Tons	*Tons*	*Tons*	*Tons*	*Tons*	*Tons*	*Tons*	*Tons*
1900	3,269	3,994	5,511	2,117	538	97	(1)	15,526
1901	1,909	2,908	5,954	2,497	509	63	(1)	13,840
1902	1,564	3,415	5,511	1,345	480	71	(1)	12,386
1903	2,049	4,821	5,806	2,952	689	94	(1)	16,411
1904	3,512	5,901	4,724	3,442	933	148	(1)	18,660
1905	3,639	6,109	4,773	2,997	954	113	(1)	18,585
1906	3,719	7,342	4,748	3,367	1,130	132	101	20,539
1907	3,337	6,425	4,576	2,918	1,466	161	(1)	18,883
1908	1,717	4,647	4,487	2,943	1,158	144	(1)	15,096
1909	2,486	6,647	3,691	4,134	1,491	144	(1)	18,593
1910	3,460	7,304	3,363	3,949	1,927	133	(1)	20,136
1911	3,118	6,039	3,347	2,923	2,665	142	46	18,280
1912	2,999	6,256	3,454	3,224	2,767	163	42	18,905
1913	2,644	4,596	3,565	2,259	2,832	89	40	16,205
1914	1,390	1,714	2,213	1,684	700	18	(1)	7,719
1915	618	3,120	2,144	2,247	(1)	8	(1)	8,137
1916	1,522	3,856	2,969	1,984	(1)	41	(1)	10,372
1917	1,820	4,264	2,828	1,287	152	63	31	10,445
1918	1,228	3,115	1,727	1,049	(1)	2	(1)	7,121
1919	1,092	3,337	1,520	547	320	77	127	7,020
1920	943	2,862	1,104	855	563	17	57	6,401
1921	384	1,723	778	216	460	1	6	3,568
1922	255	1,006	1,089	83	(1)	(1)	(1)	2,433
1923	622	2,578	438	90	(1)	(1)	3	3,731

[1] No data available.

Mobilizing Population Large Drawback

Nearly all the countries of Africa where Hevea might be produced have comparatively large indigenous populations. The problem of mobilizing this labor for steady plantation work has been a difficult one, and is, perhaps, the chief drawback to agricultural development of any sort on a large scale. As a rule, the basic agricultural wage ranges from the equivalent of 10 cents to 30 cents United States currency per day. The days of enforced labor by indenture, or by imposing a heavy head tax so that the native would have to work to pay such a tax, are past. Persuading the native to work has generally taken the place of compulsion. Where compulsion was practiced, the native has not forgotten the white man's efforts to make him work, and in such regions is not easily persuaded. His rights in this respect are generally rigidly protected by the Government authorities. In many districts the natives prefer to work on their own farms and the Government in some instances have taken advantage of this trait to encourage them to plant commercial crops of their own.

While the authors observe that in nearly all the political units of equatorial Africa the rights of the natives are carefully guarded, there are large areas of suitable land that can be obtained for plantation projects, where there is no conflict with such rights. In the Belgian Congo large concessions have been obtained on reasonable terms by special arrangements approved

[*Continued on Page* 194]

Using Rayon as a Tire Fabric

Many Disadvantages, Especially That of High Cost, Must Be Overcome Before Such Use Would Be Fully Practicable

BY H. T. NONES

Assistant Chief, Textile Division, Bureau of Foreign & Domestic Commerce

SOME TIRE fabric mills are known to be giving consideration to the use of rayon as a tire fabric. THE RUBBER AGE, as well as other trade papers, recently reported that certain rayon mills have been actively experimenting with rayon in that connection but none of the results of these experiments have been given publicity. Inquiry at the Bureau of Standards at Washington reveals that no official research or experimentation has been made or contemplated, nor has such experimentation been asked for. Although the development is yet entirely in the experimental stage, it is perhaps not too early to consider the apparent advantages and disadvantages which rayon would have as a tire fabric.

Rayon is Easily Controlled

Rayon is a commodity the production and value of which is entirely controlled by man and not dependent on agricultural conditions. This unique characteristic among textiles makes it possible that future developments may radically reduce the cost of production. Rayon was originally a French development, but the exploitation of the product has occurred mainly in Great Britain and the United States.

The world's production of rayon in 1925 was about 185,000,000 pounds, and some authorities estimate that for 1926 the production will reach 245,000,000 pounds. In America during 1925, twelve factories produced nearly 52,000,000 pounds of rayon valued at $88,000,000, according to the Bureau of the Census. This production was not great enough to meet domestic requirements, and an additional 7,000,000 pounds of rayon with a declared value of $8,170,000 were imported in 1925. The rayon industry is still in its youth and is growing rapidly.

The use of rayon for tire fabric must depend on its physical properties, available supply, and cost as compared to other tire fabrics.

Physical Properties of Rayon

Rayon is a continuous fiber, smooth, pliable and when the filaments are grouped together, comparatively strong. It has good elasticity and tenacity. The continuous strands of fiber give added strength to the fabric as compared to fabric made up of individual short fibers. Furthermore, the individual rayon filaments are solid, whereas cotton fibers have a tubular structure. It would accordingly appear that so far as strength goes, rayon will compare favorably with the best mercerized long staple cotton. The smoothness of the individual fibers results in a minimum of friction, another point in its favor. Both rayon and cotton are pure cellulose products, chemically.

The available supply of rayon is still limited, but should demand continue to increase sufficiently, there is every reason to believe that more expansion of the industry would result. Rayon production does not depend on boll-weevil or weather conditions. It is possible to absolutely standardize its quality. These attributes are unique in the textile business. It may reasonably be assumed that the supply could be increased as rapidly as warranted by the demand.

The chief disadvantage of rayon at present is its relatively high price. The Census statistics quoted above show the wholesale sales value of domestic rayon per pound in 1925 as about $1.70, covering all grades and qualities. The declared value of imported rayon works out at $1.17 per pound, but there is a 45 per cent ad valorem import duty which makes the selling price locally, after allowing for landing costs, nearly as high as for the domestic product. The declared value is of interest in connection with the foreign production cost. Since rayon is in use at present largely because of its luster and decorative qualities, it seems probable that a less highly finished product could be produced and sold at a much lower cost. Furthermore, if past history means anything, the adoption of mass production principles would effect radical economies in cost of production. The possible use of rayon as a tire fabric being dependent on its physical characteristics and not its appearance, the price at which rayon tire fabric might reasonably be expected to be put on the market under mass production methods might eventually compare favorably with high grade cord fabric as at present employed.

Some Disadvantages of the Material

Certain other disadvantages of rayon require mention. Rayon loses its tensile strength when wet. However, its natural strength is regained after drying. Since the fabric would be protected from dampness by rubber except after excessive wear of the tire, this disadvantage is not so serious as might at first appear. The ordinary tire does not have much durability after the tread is worn through to the fabric, and in fact most motorists prefer to discard tires which have reached that stage rather than run the risk of an inconvenient blow-out.

Another disadvantage is that in the winding, throwing, twisting, and spooling of rayon yarn by converters, a certain percentage of various types of oils are generally used to facilitate handling. These oils would need to be eliminated to prevent injurious effects on the rubber from the oil absorbed by the yarn.

It appears very unlikely that rayon will in the immediate future supercede cotton as a tire fabric, but the eventual possibilities of such a development are worth consideration. If rayon is proven to have characteristics peculiarly suitable for use as a tire fabric, we can depend upon inventive genius and mass production to bring its cost into line with tire fabics now employed commercially.

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Adoption of New Figure in Face of Lagging Consumption May Destroy Hopes of Early Stabilization in Crude Rubber Prices

WITHOUT THEIR companies having yet escaped from the dangerous position in which the fluctuating crude rubber prices of the last year placed them, American rubber executives are asking themselves if the drastic changes made in the British rubber restriction laws on May 1 do not open the door for a recurrence of the situation. The question is really one as to whether the demanded price of 42 cents per pound is one that can economically be met. The British apparently think that it is for while they will not be the chief sufferers in case it is not, they have no great relish for the wide price fluctuations that marked 1925.

Under the scheme prior to May 1 of this year, the average price of rubber during three months had to fall below 30 cents per pound to invoke a 5 or 10 per cent increase in restriction. Under the new pronouncement the average price has only to fall below 42 cents per pound to bring about a cut of not 5 or 10 per cent but 20 per cent in the exportable allowance.

There has been no announcement as to what may be expected in the quarter beginning August 1, if the average price during the current quarter does not fall below the 42 cent average. It is promised that the exportable percentage will not be cut below 100, but the pivotal price may be increased or decreased. A downward change is extremely unlikely with the British in their present temper toward America. Business sense may keep the British from pushing the pivotal price up to 48 cents. It is altogether likely that if the world shows a willingness to pay 42 cents for its rubber in May, June and July, it will be given an opportunity to continue on the same terms for the next three, or six, or more months.

Condition of Present Market

One month of the current quarter is gone. The price in London has averaged but a trifle over the 21 pence, or 42 cents, demanded by the scheme. For the most part the market has been dull with softer prices near the end of the month. Any further slackening of orders in June or July would send the daily price below 42 cents, perhaps for a sufficient number of days to cut the quarterly average to below that figure. In that case, shipments from Malaya and Ceylon would be restricted to 80 per cent of their standard production during the next three months.

The British contention is, of course, that it rests with the Americans to pay a 42 cent average in order that the exportation of the full standard production for British colonies may be continued. It is likely that the Americans could do so in the present quarter. Whether or not they could safely continue an effort to peg the price at that figure in the future is another question. If that is impracticable the vicious circle will be started all over again—reduced production, artificial shortage, soaring prices, speculation, and jeopardy for the manufacturer who must buy forward.

The grief of 1925 and its present aftermath is laid by the British at the door of the Americans, who, although they had no part in the restriction scheme, were held responsible for keeping the prices constantly at 30 cents or more to make the scheme workable. Whether or not the Americans by a concerted effort could have pegged the price at 30 cents without incurring grave financial danger is problematical. It would have required taking off the market a great many tons of surplus rubber which the Dutch and other non-restricted areas showed an amazing ability to produce as soon as the restriction went into operation.

Price of 42c May Not Be Possible

Now they are asked—with a more drastic penalty provided for their non-compliance—to maintain a price of 42 cents. The question becomes one of the practicability of doing that over the next few months and years. In the opinion of many the economic price of rubber during much of the next year will be below 42 cents, so much and so constantly below it that any attempt artificially to maintain that figure would involve taking unneeded 42 cent rubber off the market in such quantities as to be a practical impossibility. It is not that Americans or other consumers regard 42 cents per pound as a tremendously unreasonable price for rubber, but is simply a matter of supply and demand.

It has been frequently maintained by critics of rubber restriction that the entire scheme was founded on inaccurate statistics and unreasonable estimates. There is reason to believe that the changes made in its original provisions, particularly this last change of May 1, may likewise have had a basis of incorrect information and unsound premises. As usual the center of these is the consumption in the United States. In dealing with a consumption of rubber so large as that of the United States, it cannot be overlooked that a small percentage of change means a considerable tonnage, sufficent to profoundly affect the market price.

The American rubber manufacturer, like the rubber grower, is simply a unit serving the public. The power of the producer to alter supply has been much discussed and demonstrated, but there appears to have been a sad lack of appreciation of the power of the public to alter its demand. The alteration is of two main divisions, first, a smaller quantity of the original article is demanded, and secondly, a revised product is called for. Both have taken place in the case of rubber goods, particularly automobile tires, in the United States.

Effect of Conservation

The ability of the American public to curtail its orders for automobile tires was particularly strong since it had been wasteful and extravagant in their use. When the prices went up, the conservation movement started. With Secretary Hoover as its press agent, its impetus was rapid, but the real foundation of tire conservation was plain, personal economy. The tonnage of rubber saved in the tires the dealers didn't sell is impressive, and the price of rubber today and in the future will be lower as a result of it.

Having used his tires as he had never used them be-

fore, the American motorist demanded a cheaper replacement tire. Through reclaimed rubber he got it, not the junk that so many rubber plantation shareholders believe them to be, but a tire quite well fitted to the needs of a big percentage of motorists whose annual mileage is moderate. The use of reclaimed rubber was fully under way by the beginning of the present year.

These facts led most Americans to estimate that the 1926 consumption in the United States would not exceed but more likely fall below that of 1925, which was somewhere between 385,000 and 390,000 long tons. Many estimates were set at 360,000 and others at 350,000. Meanwhile Rickinson allowed, and still does, that the United States would require 420,000 tons in 1926. Mincing Lane estimates ran from 415,000 to 435,000 tons.

Present Inventories are High

Consumption statistics for the first four months of the year are now available. The consumption has been almost exactly the same as the corresponding period of 1925. A different situation is faced, however, in several particulars. Manufacturers' inventories are several million tires and several million tubes heavier than they were a year ago. Demand is apathetic instead of brisk and the spirit of conservation is far from dead. A much larger part of the existing demand is for a lower-priced tire containing less fresh natural rubber. Unseasonable weather has eliminated much of the normal spring mileage and corresponding tire wear.

With the consumption in the first four months showing no increase and all these conditions existing, the estimates of an annual requirement of 350,000 or 360,000 tons look more reasonable than ever. Certainly the estimate of 386,000 tons for the year are too high and the British estimates running well over 400,000 are entirely unreasonable.

Similarly, the British appear to have estimated too great an increase in consumption outside the United States. The 1925 consumption of the rest of the world was between 160,000 and 165,000 tons. Comprehensive data for the early months of 1926 is not yet available for all countries or even for the most important ones, but it is apparent, from the trade reports that the normal increase in rubber consumption will not take place in them any more than in the United States. One British estimate sets their 1926 consumption at 194,000 tons. The outside limit of the American estimates is 170,000.

Adding the American estimates of consumption within and without the United States would give a total of 530,000 for the world's requirements in 1926. It is fully realized that this figure is 25,000 tons less than the 1925 consumption, the reduction being entirely in the United States of which the Americans are most capable of judging.

On the production side, Americans have been content to let the British do the estimating. A common figure for the world's 1926 production has been 625,000 long tons. At the moment it appears that that figure may be too high also, although the statistics for the early months of the year show that a little more than 600,000, perhaps 610,000, would not be an unreasonable estimate.

210,000 Tons at End of 1926?

A world production of 610,000 tons against a consumption of 530,000 leaves a surplus of 80,000 tons. World stock at the end of 1925, including rubber afloat, is estimated to have been from 130,000 to 150,000 tons. If we increase the 130,000 tons by 80,000 tons during 1926 we will end that year with 210,000 tons, or almost four and three quarters months' supply at the 1926 rate of consumption.

Judging from price movements in the past, with four and three quarters months' supply on hand and afloat, a price of 42 cents per pound would not be maintained. Neither would the price under such a condition be likely to fall below 30 cents. At the end of 1923 when the spot price was slightly below 30 cents, a trifle more than a six months' supply was available. With a four and three quarters months' supply it would perhaps be reasonable to expect the price to break 36 cents or to average slightly above that figure; it does not seem that 42 cents would be reached and maintained.

Support of 42c Level Doubtful

If with the conditions as outlined, a price of 42 cents is unnaturally high, the only way to escape the drastic curtailment of supply under the restriction scheme would be artificial support by consumers. Passing over the fact that such support would necessitate combined buying, which is illegal under United States laws, there appears little reason to believe that American manufacturers would attempt to support the market to the extent that a 42 cent level would entail. There was evidence that they could see the desirability and the possibility of supporting a 36 cent level. A 42 cent level is another thing. If the British persist in retaining 42 cents as the pivotal price, it is questionable whether they have not removed the final possibility of cooperation with the British in stabilizing crude rubber prices in the next two years.

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British Get Panama Rubber Land

Extensive Mineral Concessions Granted By Panama Cover Lands Most Suitable For Large American Rubber Development

BY R. O. MARSH

WHAT MANY people have regarded as the most likely site where Americans could successfully develop large rubber plantations on the American continent is apparently to be denied them for that purpose. The site is the Darien region of Panama; and the new obstacle to its development is a concession granted by the government of Panama to a British corporation.

Aside from higher labor costs, many parts of tropical America are today as suitable for rubber culture as the Middle East. Panama in particular has been attractive. From the standpoint of soil, climate and topography Panama equals any part of the Americas. From the standpoint of financial, political and military security, the nearness to market and proximity to American jurisdiction, Panama is ideal and unequalled.

In the matter of labor, Panama is better off than many other parts of tropical America. There are in the Country some 60,000 high type agricultural Indians who if properly handled and treated could be induced to contribute to an American rubber development. In addition, many thousand of negroes could be recruited in the country and many additional thousands could be imported from the nearby West Indian islands. While such labor would never be as cheap as Oriental labor the problem of a competitive production cost is far from being given up as impossible of solution.

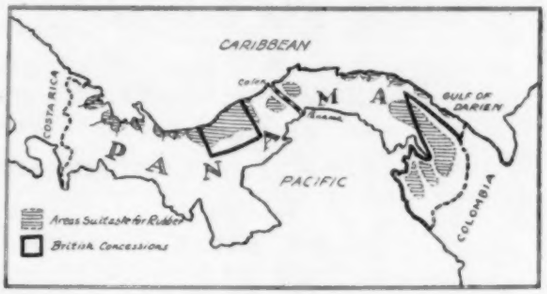
Two Locations Most Suitable for Rubber

The two best regions of Panama for rubber plantation development are in Darien and Veragua where there are 2,000,000 acres eminently suited in soil, climate and topography. This has been public land awaiting development. There is but little public land outside Darien and Veragua that is suitable for rubber. Where the rubber lands extend from these districts into others, the interior portions are inaccessible and relatively small, as shown on the map in the next column.

But in addition to being fine rubber land, the public land of Darien and Veragua is known to contain valuable mineral deposits, principally of gold. The minerals are the cause of the lands being unavailable for rubber development today.

It has been known for more than a year that the British were professing great interest in the mineral possibilities of Panama. It has not been generally known until recently, however, that one year ago the Panama authorities concluded an agreement with British capitalists by which they may not only take full advantage of the minerals to be found in Darien and Veragua but they may also completely prevent Americans from entering those favorable rubber areas. The terms of the agreement and indeed the agreement itself were kept quiet by the Panama authorities and the British alike until a few weeks ago when the formal and necessary ratification of them by the Panama Congress was made. Then announcement was made.

The outstanding point of interest for Americans in the agreement or concession is that all public lands in the two districts are withdrawn from denouncement for ten years. In other words, during that length of time while engineers of the British corporation will presumedly be busy with explorations, not an acre of these rubber lands can be secured by an American. It is true that the British rights are mineral and not agri-



cultural but while their explorations are underway Panama has no public lands in Darien or Veragua, agricultural or otherwise, to grant to anyone.

Having completed their explorations during the ten years and paid an indefinite and insignificant rental, the British hold the right to denounce 3,500 square miles in Darien and 1,100 square miles in Veragua for permanent exploitation. Such areas would include almost all the public lands suitable for agriculture. With the elimination of the mountain tops and the swamps in which the mining companies would not be interested, the ultimate mineral concessions might well include every acre of public land in Darien and Veraguas suited for rubber culture and thus definitely remove any possibility of a large rubber development in Panama. Practically speaking, such development is already rendered impossible during the next ten years by the end of which time whatever rubber planting interest finally fructifies in America will have chosen some other center for its activities.

Attitude of U.S. Government

Apparently, the only possibility of having the British concession recalled would arise from a belated protest by the government of the United States. It has been a matter of surprise to many that none has yet been made. The proximity of the Panama Canal might well make the United States apprehensive.

Officials are known to be reviewing the subject carefully. At the present moment, however, the concession is an accomplished fact and another of America's rubber hopes appears to have gone glimmering. It is not inconceivable that that will be a richer reward for the British than any gold they may find for with Britain's present stake in rubber growing, it would be no insignificant move to prevent the establishment of a flourishing rubber industry on the very doorstep of the world's largest rubber consumer. Also, it is not inconceivable that that angle of the subject was fairly well realized when the concession was sought.

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Debating Rubber Restriction

British, American and Dutch Spokesmen Make Statements Simultaneously for International Chamber of Commerce

On account of the international interest in the matter of an adequate crude rubber supply at a reasonable price and the charges frequently made that it was being jeopardized by the British rubber restriction laws, the International Chamber of Commerce has secured and published at one time the views of representatives of the nations most concerned. H. Eric Miller was asked to speak for the British, Dr. A. G. N. Swart for the Dutch and Dr. Julius Klein of the Department of Commerce for the Americans. The length of their carefully prepared statements does not permit their full reproduction in *The Rubber Age* although they would undoubtedly be of interest to many readers. Accordingly, a series of pertinent extracts from the three papers is printed in parallel columns below. The complete text may be secured in bulletin form from the office of the International Chamber at Washington.

The Principal Producer

by H. ERIC MILLER

IN RESPONDING to the request of the International Chamber of Commerce for a summary of the Stevenson Scheme and the rubber situation from the British producers' point of view one cannot but pause to think how differently recent events might have shaped had this subject been kept regularly under review during the past three years. Much of the sting has been taken out of the agitation in the United States of America by the decline which has occurred in the price of rubber during the last two months, but quite apart from that it is pleasing to record that after public notice had been directed to the subject many Americans prominent in public life and the banking world have championed the British case.....

It is safe to assert that without the development of the cord tire the world's need of rubber could barely have been satisfied in 1922, and in subsequent years there would have been an actual shortage. Therefore, although the introduction of the cord tire very nearly ruined the plantation rubber industry, it has nevertheless proved to be a blessing in disguise.....

The Rubber Growers' Association in London, which represents about one-third of all plantation rubber producing interests had endeavored to stem the tide of dis-

[*Continued in First Column, next page*]

The Principal Consumer

by DR. JULIUS KLEIN

THE 1921-1922 depression in the plantation rubber industry has been responsible for so much publicity during the last five years that many people have come to think that it must have been a highly unusual phenomenon. As a matter of fact, it was nothing of the kind for depressions of overproduction have marked the postwar development of every major agricultural industry in the world.....

Those who approve such a doctrine of political tampering with fundamental economic laws (as the

[*Continued in 2nd. Column, next page*]

DR. JULIUS KLEIN

The Second Producer

by DR. A. G. N. SWART

THE IMPORTANT position occupied by the Netherlands East Indies, as a rubber producing country, is evidenced both by the area which has been brought under regular cultivation and by the production figures of rubber. According to the latest statistical figures, running to the end of 1924, estate plantations covered an area of 973,521 acres, of which 678,300 acres were in production, not including the area planted with so-called native rubber.

In many quarters it has caused disappointment that the Netherlands Indies Government did not in 1922 co-operate with the British Government for the restriction of the rubber production according to the so-called Stevenson scheme, and that, with the exception of the British estates in the Netherlands Colonies, the planters did not have recourse to a voluntary production restriction either, and it has been frequently represented that this attitude of the Netherlands rubber planters was based on the wish to enrich themselves at the cost of their restricting colleagues, by forcing their crops above what was rational.

This representation must however be considered to be erroneous. The non-restriction policy of the Netherlands planters was, in the main, due to individualism, carried

[Continued in Third Column, next page]

Miller's Statement

aster by a voluntary curtailment of output during 1921, but support fell away after that point because producers domiciled elsewhere, who were living the barest hand-to-mouth existence, acted on the principle that the lower the price of rubber the more they must produce in order to keep their heads above water. A further reason why voluntary regulation of output to meet the world's needs broke down was the idea that the "survival of the fittest" was the proper policy to pursue, which, as the Stevenson Committee said, "disregard the hardships which must fall on the many tens of thousands of shareholders in this country alone, and the many thousands of European and Asiatic holders and shareholders resident in the countries of production, if the industry is to drift along unprofitably until the weakest have been eliminated".....

The Stevenson Committee said they "had most prominently in view the desirability of taking no steps which would be liable to prejudice the legitimate development of the uses of rubber", and they lived up to this when they fixed the pivot price at 1/3d which was in fact the lowest figure at which the plantations could be kept going efficiently.....

Rumors were widely current in May, 1924, that the Stevenson Scheme must inevitably fail, and buyers generally disregarded it and gave not a thought to the effect which the continued low price of rubber must inevitably have on future supplies, as the scheme and emergency provisions whereby in the event of rubber averaging less than 1/- per pound for three consecutive months, the rate of export was to be reduced. Even when the export rate went back to 50 per cent of standard, buyers remained extraordinarily indifferent. An attempt has been made to explain this short-sighted attitude on the ground that assurances were given, particularly by myself, that they could look for supplies adequate for their needs at a price from 1/3d to 1/6d. That expressed our view of the position provided the price was maintained at the figure which automatically afforded additional releases.....

The vesting of control over exports in the hands of buyers

[*Continued in 1st column, next page*]

Klein's Statement

Stevenson Scheme) must realize, if they are logical, that they are adopting not a temporary but a continuing policy. The stimulation of all possible sources of competitive supplies is certain to mean the inevitable recurrence of overproduction. Narcotic-like, the second dose of governmental aid will be wanted and needed largely because the first was taken.....

The plight of the rubber shareholder sprang of course from overproduction, which was a result of over-planting. Such a condition can only mean that too many people had been tempted into planting rubber which in turn suggests that the industry must have yielded handsome profits to have been so widely attractive. The records show that this was true, although the advocates of restriction have not habitually referred to that aspect of the case.....

The records of several representative companies which have been examined show that for a 14-year period including 1921 and 1922, the years of lowest prices, their average annual earning on the invested capital was 26 per cent and their annual dividends averaged 22 per cent. This means that the investors in these companies had received in dividends all their original investment three times over. Younger companies had paid similar dividends, but of course for fewer years. With such a record of prosperity back of them, it is difficult to understand the cry that these investors must be protected.....

It was only the stockholders in the youngest companies who had gone entirely unrewarded when the brief period of unprofitable prices arrived. Apparently, the high prices of earlier years had blinded them completely to the danger of overproduction. Calm analysis would have shown that more rubber was being planted than could possibly be needed; only an unpredictable acceptance of the automobile in the United States kept the percentage of unneeded acreage from being enormous. The plea that such shareholders as these must be protected is practically arguing that poor judgment should be rewarded instead of penalized.....

[*Continued in 2nd column, next page*]

Swart's Statement

to an extreme, to the aversion to Government interference in private matters which is inherent in the Dutch national character and to the great influence proceeding from the liberal economic theories of freedom of trade and industry in leading circles in The Netherlands. And as regards the method of production, it is indeed certain that in recent years the great majority of the planters have had recourse to a very moderate and careful tapping method—not with the purpose of lowering production, but having learned by the bad experience obtained with the previous reckless tapping methods and enlightened by the newer theories in the sphere of fighting disease, in order to attain a frequently most necessary improvement in the condition of the plantations.

With regard to the adverse decision of the Netherlands Indian Government in this matter, it seems indubitable that it was mainly due to the presence of the native rubber plantations, to the political consideration that it would be risky to try to compel the native population to restrict the production of the plantations, which had been brought into existence at the urging of the Government itself, and above all to the dread of the Government officials that, with the vast expanse and the peculiar nature of the territory on which said plantations were to be found, it would not be practically possible to enforce restrictive measures also for the product of these plantations.

It therefore appears to me that, even if the state of the rubber market should at any time cause the advocates of restrictive measures to make fresh attempts to convert the Netherlands Indian Government and the Netherlands rubber planters to their way of thinking, such attempts would have no chance of success.

On the other hand, I consider it very probable that, if ever the need should be felt for the voluntary uniting of rubber producers, by means of the establishing of a central and sales-organization, the majority of the Netherlands planters would most gladly fall into line with their British and continental colleagues to that end.

[*End of Mr. Swart's Statement*]

Miller's Statement

through the price they paid is a fundamental justification of the absolute fairness of the scheme, which was to operate like the law of supply and demand. The spectacular rise during 1925 was the inevitable consequence of buyers neglecting to buy when, as subsequent events proved, they should have been operating freely.....

The average cost of the crude rubber used by manufacturers in the year 1925 cannot have been higher than 2/6d per pound, and as the market for spot rubber is already down to below this figure, the temporary squeeze in price has had nothing like the effect depicted by Mr. Hoover.....

How much more serious the position would have been if a struggle for the survival of the fittest had been allowed to take place, instead of the industry being maintained in efficient working order, as has been done through the adoption of the Stevenson Scheme is not yet sufficiently appreciated.....

Only the other day, Dr. Julius Klein, of the Department of Commerce in Washington, made the statement, with every appearance of authority, that the producing capacity of Malaya was not 100 per cent standard, but 113 per cent. It may be some little time before the extent to which he is mistaken can be proved, but I would be failing in my duty if I did not state the conclusion which I have reached after very careful inquiry, that Malaya cannot produce even 100 per cent of standard without impairing its productive capacity a few years hence.....

It is most remarkable that the participation by United States capitalists in the producing side of the rubber industry should have remained insignificantly small, notwithstanding the importance of the commodity to their national life, and notwithstanding many opportunities which have occurred in recent years for the acquisition of shares in well established plantation companies at very low prices. Conversely the British trusted very much to luck when they embarked on the large scale development of estates, and it is to be hoped that recent happenings will promote, in a spirit of international friendliness, a closer appreciation of the mutuality of the interests of producer, manufacturer and consumer.

Klein's Statement

The argument that restriction was necessary "to save" the rubber plantations from wasteful destruction through neglect during any depression should likewise be carefully examined. This contention has been repeatedly advanced, to the amazement of those acquainted with the hardiness of the Hevea tree, itself a child of the jungle. I am informed by practical planters that only the youngest saplings could possibly be injured by abandonment of plantations.....

But the rubber consuming countries had no opportunity to balance these considerations against the arguments of the planters. Since Great Britain produced 70 per cent of the rubber and consumed but seven per cent, the preponderance of her interest was with the planter rather than the consumer. Accordingly, most of the members of the Committee appointed to study the crude rubber situation and make recommendations were interested directly or indirectly in crude rubber production.....

Since it will be noted later that the unreasonably high prices resulting from its operation are attributed by proponents of the scheme to the fact that consumers did not do as the scheme meant for them to do, it should be noted here that those consumers had no part in its adoption but protested against it at the first opportunity and hence cannot fairly be held responsible for the results it produced.....

H. ERIC MILLER

The immediate complaint of the American consumers who use 70 per cent of all the rubber was not that the pivotal price was too high but that the legislation was too inflexible. To this complaint there was no official reply but proponents of the legislation urged that the Secretary of State for the Colonies had discretionary power to correct any such situation as it might arise.....

The most ardent anti-restrictionist, if he is reasonable, can readily understand the failure of the British to alter the restriction legislation abnormally when it was time to announce the new exportable percentage on February 1st, 1925, and the same may be said also as of May 1st. It is difficult, however, to reconcile the continued claims concerning a fair and stabilized price with their failure to act on August 1st when prices were so clearly out of hand. The invariable reply to the American complaints was that they had not bought at the right time and hence the runaway market was a just penalty which there was no intention to mitigate. The primary fallacy of such a contention is of course that the consumer had no part in the restriction scheme and accepted no responsibility for its functioning; instead he had predicted for it the exact defects which developed.....

For his future relief and protection, the consumer will apparently have to become a producer also, at least to a sufficient extent to thwart any attempt indefinitely to continue or revive the onerous and costly restrictions. There is evidence that he will do so. These things do not mean that the British will be reduced to an unimportant part in the rubber industry for that is neither likely nor desirable. They may mean, however, that when another crisis comes, the British, by their first restriction and their unwise control of it, will have brought about a condition that will deny to them a second dose of the remedy. And without artificial assistance in that day thousands of acres of British plantations will be less favorably situated than the newer acreages which will have started with the advantage of all that experience has taught.

African Rubber Report

[*Continued from Page* 184]

by the Belgian Parliament. In British West African colonies, concessions are granted with restrictions that protect both the forests and the rights of the natives. In Uganda leases for periods not exceeding 99 years are granted by private treaty, the rent per acre varying with the duration of the lease. In Liberia land leases can be obtained for long periods and covering large areas, with the consent of the Liberian congress.

The major part of the report is occupied by reviews of the rubber growing possibilities of various political units in Africa. Eight of these are British, seven French, three Portuguese, one Belgian, one Spanish and three mandated territories in addition to the Republic of Liberia. In all of them it is felt that there are some possibilities for the successful cultivation of Hevea with the authors apparently feeling some preference for the Belgian Congo, Liberia and Gold Coast. The area of the countries considered in the report covers 7,000,000 square miles, and their estimated population is 78,000,000.

A foreword printed in the report states that "Rubber Production in Africa", the fifth of the series resulting from the crude rubber survey of the Department of Commerce, will be followed by two more to complete the work. The entire tropical world will have been covered when the sixth report has been issued. It will deal with the possibilities of growing Hevea in northern tropical America, the Amazon valley having been treated in a previous report. The seventh and last report is not geographical but will deal with the production of gutta percha, balata and other gums.

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Vulcanization By Gases Instead of Heat Now Applied to Articles Such as Flooring, Footwear, Bulbs, Etc.

PROGRESS IN the development of the Peachey process of vulcanization has been so rapid in recent months that no longer does it apply exclusively to thin sheets of rubber or rubber coated fabrics but it can now be used for milled and crepe rubber, footwear, flooring, bulbs, buffers and other products of a similar nature. Samples of raincoats, bathing shoes, hats, footwear, flooring, etc., cured by the Peachey process were recently exhibited in this country from which it became at once apparent that the application of this process to other similar rubber articles is inevitable.

Interest in vulcanization by gases instead of heat was greatly increased in this country when it become known that the Grasselli Chemical Company had been appointed agents in the United States for the Peachey Process Co. Ltd., London, England. The recent visit of A. Herring-Shaw, general manager of Peachey, to this country for the purpose of concluding contracts or licenses for the Peachey process again served to call interest to its possibilities and it is said at this time that several rubber manufacturers are now making an extended investigation in preparation for its introduction into their plants.

In brief, the Peachey process is described in U.S. Patent 1,487,880 granted March 25, 1924, as follows:

"This invention relates to a process for effecting the vulcanization of rubber without the aid of heat, and consists in treating the rubber, preferably in the form of sheets or films, or in a dissolved or partially dissolved condition, alternately with sulphur dioxide and with hydrogen sulphide. The two gases diffuse into or dissolve in the rubber or its solution, and there interacting bring about a comparatively rapid vulcanization even at the ordinary atmospheric temperature.

"It is known that sulphur dioxide and hydrogen sulphide interact in the presence of traces of moisture, with the production of a form of sulphur which is physically different from the form or forms which are commonly employed to bring about the vulcanization of rubber, but the employment of the interaction of these two gases in the rubber itself, or in its solution, as a means for bringing about vulcanization at the ordinary atmospheric temperature has not hitherto been proposed.

"In carrying out the process, the rubber in the form of sheet for example, and either dry, i.e., in its normal state and containing the usual traces of moisture, or after wetting with a solvent such as benzene, is exposed to an atmosphere of (or containing) sulphur dioxide for a period of time which varies with the thickness of the sheet. It is then removed and transferred to an atmosphere of (or containing) hydrogen sulphide in which it is allowed to remain until, on removal, it no longer smells of sulphur dioxide. The alternate treatment with the two gases may be repeated, if necessary, until the desired degree of vulcanization is obtained. If desired, the rubber may first be treated with hydrogen sulphide, and then with sulphur dioxide, but the former method is to be preferred.

"The process described above may be varied in several ways, as, for example, by exposing the rubber to an atmosphere of (or containing) sulphur dioxide, and subsequently immersing it in a solution of hydrogen sulphide in benzene or similar solvent, the operations being repeated, if necessary, until the desired degree of vulcanization is attained."

In Great Britain a number of plants using this process have operated successfully and there is every reason to believe that it will prove just as successful in this country. A development which will help materially is the possibility of doing away with the erection and operation of a separate plant for generating H_2S gas. At this time SO_2 can be obtained in cylinders or drums in liquified form and it is understood that attempts are now being made to procure the H_2S in a similar fashion. If this development meets with success the adoption of the Peachey process will be materially hastened in this country. The probabilities are however that the larger rubber manufacturers who adopt this process will want to manufacture their own gas in order to keep all expenses at a minimum.

The operating details of the Peachey process are constantly becoming of greater interest to the rubber industry of the United States and some of the most pertinent facts concerning its general use and in the manufacture of footwear, rubbercoated fabrics, leather fabrics and milled sheet rubber are accordingly presented with following paragraphs:

"Two Solution" Process

The various applications of the Peachey process fall into two distinct classes: 1, the "gel" or Solution process; 2, the "dry" or Chamber process (described under Rubber Coated Fabrics).

The Gel or Solution Process—This differs from the "dry" process in the fact that the two gases are applied to rubber, or rubber containing compounds, in the presence of a rubber solvent, e.g., the rubber or rubber compound is broken down in a solvent which it absorbs until it acquires a viscous liquid condition—the degree of viscosity being governed by the relative percentage of rubber and solvent, and the amount of milling which the rubber has sustained.

The procedure of the "gel" process consists in saturating with H_2S a quantity of the "rubber solution" and impregnating a quantity with a known amount of SO_2.

On intimately mixing the two solutions, the interaction of the two gases, H_2S and SO_2, with the rubber, results in the formation of a gel. On evaporating the solvent a residue of vulcanized rubber is obtained.

Suitable "fillers" in a finely divided state can be "milled" in the raw rubber before breaking this down into solution.

A solvent to which a known quantity of SO_2 is added can be used instead of the second rubber solution, with better and quicker results in the operation of mixing the two quantities, and this is the practice usually followed.

Uses of the Two Solutions—1. As a valuable adhesive for joining leather to leather, rubber to leather, rubber to rubber, and fabrics to other appropriate materials, etc. 2. Molding of solid and hollow articles of rubber and rubber compounds.

When used as an adhesive, the articles to be joined are cleaned with a suitable solvent and given a coating of the mixed two solutions and allowed to dry. A second coat is applied, and when tacky the two surfaces

are pressed and held together for several minutes during which the adhesive coating vulcanizes.

Gel molding with the two solutions is carried out by mixing requisite quantities of the two solutions and pouring same into the specially prepared molds. Shortly after "gelling" has taken place the outers of the mold are removed, and when the solvent has evaporated the resulting shape in vulcanized rubber can be removed. In the case of hollow articles these are allowed to dry on the cores and then stripped in the ordinary way.

The gel molding process lends itself to the manufacture of numerous rubber goods such as:—hot water bottles, teats, bulbs, bathing caps, tobacco pouches, galoshes, rubber stockings, short lengths of transparent tubes, tennis racquet grips, buffers, sheets of transparent rubber, and numerous medical and surgical goods, etc.

The usual trade process is followed in preparing the rubber solution, which subsequently is gassed to saturation point by bubbling H_2S through the liquid, using any suitable mechanism for the purpose. A simple method in use consists in combining the operation of mixing the solvent and rubber with that of gassing. A gastight cylinder containing the rubber and solvent with a gas inlet through the center shaft on one end, is revolved horizontally. H_2S gas is admitted, and thus the two operations of gassing and mixing are combined. SO_3 solution is prepared by bubbling this gas through a solvent—benzene, naptha, petrol, etc., until 2.5 grammes per 100 ccs. of solvent have been absorbed.

The SO_3 content of the solvent prepared as stated is the determining factor in the degree of vulcanization effected in the gel.

Proportions of the Two Solutions Used—Ten parts by volume of the H_2S gassed rubber solution (12.5% rubber) are mixed with 1 part by volume of the SO_3 (benzol) solution, the mixture being well stirred by means of a stirrer wholly immersed in the liquid to avoid the inclusion of air bubbles.

Time of Setting of Gels—Using the above proportion (which in practice yield a vulcanized rubber having a coefficient of vulcanization of about 2.5 but which may be suitably varied to produce a lower coefficient) the time of gelling averages from 20 to 25 minutes (dependent, however, to some extent on temperature). The addition of small quantities of benzoquinone brings about a considerable acceleration of gelling and 1 : 2 napthaquinone of gelling are effective in this respect. By the use of these accelerators the time of gelling may be varied from 20 minutes to 1 minute.

Curing of Rubber Articles of Milled Rubber

The relatively extensive use of unmilled crepe and smoked sheet in a large variety of articles which has developed in recent years, has brought about a demand for a stable cure for these goods.

Four years ago the Peachey process was first used for curing this class of goods with excellent results, and it has been in constant use for this purpose since then. Articles and goods of unworked rubber cured by the process have been subjected to prolonged severe tests and commercial service without a failure. Boiling in a 10% solution of caustic soda for 100 hours has no deleterious effect on the cured rubber.

A rectangular chamber of appropriate dimensions is used along with the necessary gas supply pipes, booster, etc., and equipped with suitable racks on which are placed the goods to be cured. The time factors vary slightly with the class of article treated. For thin

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See Pages 205-207-209-211, this issue

slightly with the class of article treated. For thin goods requiring a slight penetration of cure, a shorter exposure is given than in the case of goods of heavier gauge, where a greater depth of cure is required.

The times of exposure to each gas are:

	Minutes
SO_2	10
Aeration	2
H_2S	30

and the concentrations of the respective gases in air:—

SO_2	30%
H_2S	40%

The depth of penetration of cure which has been achieved using the longer exposure indicated is 3/32″ with smoked sheet and crepe rubber articles.

A plant recently installed for curing articles of crepe rubber and footwear by the Peachey Process is self-contained and includes H_2S generator and gasometer, SO_2 supply arrangements, absorbers, rotary motor coupled booster, curing chamber and aerating chamber with motor coupled air blower.

The H_2S generator gives an output of 80 cubic ft. per hour and the gasometer, which is of the double bell type provided with 3″ inlet and outlet pipes and scour cock to water tank, is 350 cubic ft. net capacity. This generator is made throughout of high silicon iron-acid resisting and H_2SO_4, 168°. Twaddle and FeS are used.

The neutralizer consists of a tank of glazed stoneware, to which is added air slaked lime to neutralize any acid which may be discharged from the generator.

The cylindrical absorbers are of 3/16″ Mild steel, with bolted access covers and distributors formed of perforated 3″ pipe laid near the bottom of the invert of each cylinder. An ordinary water gauge is fitted in one end of each absorber, and the alkali (10% solution of NaOH) is supplied by gravity from the tank shown.

Cylinders containing liquid SO_2 are connected to a "manifold" which leads into the gaseous SO_2 reservoir, in which a ½″ diameter steam coil is placed to maintain the temperature of the SO_2 at approximately that of the atmosphere of the curing room—about 60° to 70° Fah.

The motor coupled booster is of the twin type, constructed to deliver 60 c. ft. of gas per minute against 48″ of water column pressure, and the piping and control valves to this and the curing chamber are so arranged that the booster can be used for exhausting the chamber and inducing supplies thereto of SO_2 and H_2S respectively; for circulating the gas through the chamber during curing and exhausting the surplus gases through the absorbers.

The aerating chamber is utilized for removing by air blowing, the last traces of H_2S from the cured goods.

The piping, fittings and chambers are of mild steel and the valves are of the "gate" pattern, gland cocks also being used as these are more speedily operated.

Rubber Coated Fabrics

The application of the process to this branch of the rubber industry is relatively simple.

Two systems of curing are available: one, consisting in the use of a single gastight chamber to which the gases are admitted in series, with an intermediate period of air blowing; and a second method, using two chambers containing SO_2 and H_2S respectively, through which the fabric is passed with a short period for aeration when the fabric passes from the first (SO_2) chamber to the second (H_2S) chamber.

The Single Chamber System—The curing chamber, which is 6′ long x 4′ x 3′ is provided with several wooden curing racks, on which the fabric is arranged in equi-spaced festoons or loops.

The racks have a working clearance of ¼″ on each side when placed in the Chamber, and when loaded contain 60/70 linear yards of fabric.

The cycle of operation is the same as in the curing of articles of crepe rubber, and the details of the plant are also identical.

No appreciable variation of the time factors in the curing operations is necessary. The standard times for a satisfactory cure of all types of S. T. rubber coated fabrics are:

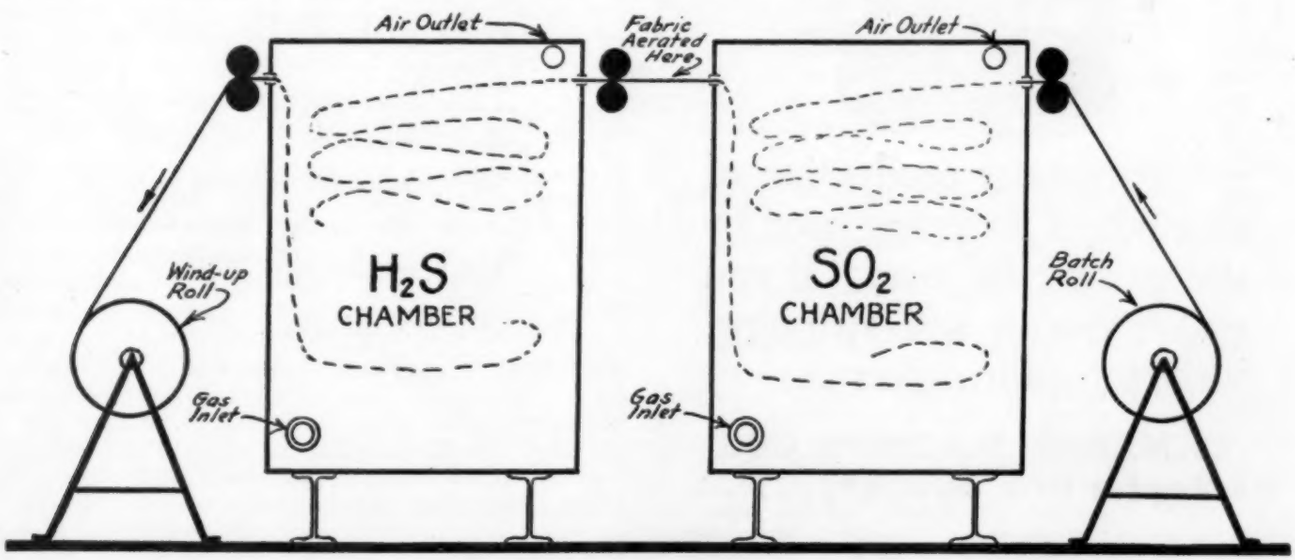
SO_2	Treatment	10 minutes
Aeration	"	1¾ "
H_2S	"	35 "

The "charge" per cure of a chamber with the above dimensions is 60/70 linear yards, and the total time for the in and out operations is 1 hour.

The quantities of each gas used per cure are:

SO_2	40 c. ft.
H_2S	40 c. ft.

A cylindrical chamber can be used instead of a rectangular one, and in this case the fabric is batched on a spool in coil form with a grillage spacer between the successive windings.



GENERAL ARRANGEMENT OF CHAMBERS FOR CONTINUOUS CURING OF COATED FABRICS

Continuous Curing Plant—This plant employs two separate chambers—one containing SO_2 and the other H_2S. The fabric passes through the former and after a very brief period of aeration enters the H_2S chamber. The fabric inlets and exits to the chambers are close by pneumatic tubes, and to secure the necessary duration of the fabric for given periods in each chamber, it is allowed to fold in layers in aluminum trays. The length of fabric in each chamber at any moment is the resultant of the time factor by the speed. Thus: with a speed of 3 yards per minute and a 10 minutes exposure in SO_2 this chamber would contain 10 x 3 or 30 yards of material constantly in progress through it during its operation. And, in the H_2S chamber there would be 35 x 3 or 105 yards under the same conditions.

The cost of curing and handling are very greatly reduced as there is practically no gas wasted and the automatic running of the machine materially reduces labor charges.

Durability Tests of Rubber Coated Fabric—Peachey stormproof garments in a wide range of colorings and types of materials have been tested by actual wear during the past three years with excellent results.

Laboratory tests, including ultra violet light tests, the Geer test, and exposure to long periods of bright sunlight have been carried out continuously over four years and have proved beyond question the remarkable durability of Peachey cured fabrics.

Leather Fabric Production

Leather Waste—Almost unlimited supplies of this are obtainable from boot and shoe manufacturers, who, in this country, often are unable to find a market for it, and it is transported in sacks containing from 100 to 200 pounds.

It is essential to keep this material under cover, as undue moisture is deleterious to the subsequent operations through which it passes.

Grinding and Sifting—Grinders of the Bramigk type are used, which grind and sift simultaneously.

Sifting by the pneumatic or air blowing method can also be used.

The ground leather may be mixed with the other filler—lithopone—and the pigment before incorporation with the rubber in the Banbury or other type of automatic mixer.

Pigment—Laked colors are used.

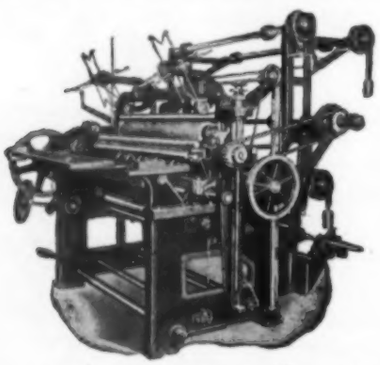
Rubber—For the lighter shades of coloring, first quality crepe is used, but for dark shades good quality brown crepe is suitable.

Mixing Operation

Mixing—The rubber is milled in the auto mixer for a period of 10 minutes (approximately), the temperature of the mill being kept as low as possible during the whole of the operation, to prevent depolymerization of the rubber. The leather and other ingredients are then added to the rubber and the mixing continued for a further period of 15 minutes approximately, after which the "batch" is transferred to the rough sheeting mills where it receives a final grinding with the rolls brought as near to each other as possible. From these mills the batch is passed to suitably heated ovens, where it is held as a buffer stock and fed to the warming mills in accordance with the calender requirements. From the warming mills it is passed to the first "nip" of the calender, and in the second "nip" it is calendered on to the fabric.

Embossing—On leaving the calender it is "batched" and this roll while warm is fed through the embossing

CAMACHINE 6-C



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machine—where it takes the desired grain and from which it is "batched" on a curing spool.

The latter is conveyed by overhead runway to the curing chamber.

Curing—The curing operation consists in first supplying gaseous SO_2 to the chamber, by displacing an equivalent amount of air therefrom. The mixture of SO_2 and air in the chamber is then circulated in the chamber through a rotary blower, to insure thorough and equal distribution. After an exposure of 10 minutes to this gas, it is forced out through absorbers, and following a period of 1 to 2 minutes aeration H_2S is passed into the chamber and circulated for a period of 30 minutes. The H_2S is then displaced and the material aerated by air blowing for 10 minutes.

Treatment of Fabric—The fabric is spread with a coating of tacky dough before it is fed into the calender. This gives an assumed anchorage to the surfacing material and eliminates "stripping" of the latter.

Finishing—If the operations are carried out with ordinary care, with the machines at requisite temperatures, the surface will be all that can be desired, and final polishing will not be necessary.

Curing Plant—This description refers principally to the type of chamber, the batching gear and the curing spool and is not concerned with the supplies of H_2S and SO_2 which are referred to in the description of curing crude rubber articles.

Curing Chamber—The cylindrical type provided with a requisite number of batching spools is best for this purpose. The door can be arranged to open on a lateral slide or "swing out hinges"—the former being the easier to operate. The domed ends are filled with wood, to reduce the gas space to a minimum.

For economic reasons it is desirable to get the maximum of fabric batched in each "charge", and to insure this, batching spools are used with "spacer grills".

Grill—The grill, consisting of metal or tough wood rods assembled at stated intervals between the two double bands of strong cotton webbing or raw hide, is mechnically wound on the curing spool simultaneously with the fabric, which rests on the rods and between the outer bands. This arrangement insures exposure of the entire surface of the fabric to the action of the gases, and the open spaces between the rods on each side of the grill provide adequate success for the gases to pass to all parts of the fabric.

Spools—The ends of these are of mild steel flat bar, and secured to an axle of wood or mild steel cylinder with closed ends provided with a detachable batch bar. The "spokes" have two anti-friction rollers fitted as indicated to facilitate movement of the spool within the chamber.

The connection of the grill to the center of the curing spool is a permanent one, and when "batching off" its outer terminal is hitched to an idler spool and run on to this simultaneously with the "run off" of the fabric on to a separate batch roll.

Any suitable mechanism for batching on and off can be used, provided it possesses a reversing gear.

The spools are carried by an overhead runway to and from the curing chambers, and mild steel trays formed to the radius of the chamber inverts receive and guide them into and from the chambers.

The quantity of fabric per charge will of course be governed by the diameter of the chamber. Approximately 110 linear yards can be cured in the chamber.

The net capacity of the chamber under charge is approximately 140 cu. ft.

The approximate quantities of the two gases used at each cure:

70 c. ft. SO_2 — 14 lbs.
70 c. ft. H_2S — 7 lbs.

Gas Supply System—The piping and machines are carried on a platform over the chambers, to insure access to these fitments and speedy operation of them.

Reference has been made to circulation of each gas during curing, and it is pointed out that in place of this method equally good results are obtained by rotating the spool.

Outline of Plant Required for Production of Leather Fabric

1	66″ Calender with 3—28″ rolls.
2	No. 3. Banbury Mixers
2	60″ x 24″ Rough sheeter mills
2	60″ x 22″ Warming mills
1	Engraved embossing calender 60″ wide
12 to 20	Embossing rolls. (The number required will depend upon the range of "grains" it is desired to market.)
4	Cylindrical curing chambers, with valves, piping and necessary rotary pumps.
1	H_2S gas generator
1	H_2S gasholder 1,000 c. ft. capacity
	SO_2 piping and valves
1	SO_2 pressure reservoir, 300 c. ft. capacity
2	72″ spreader machines
1	Dough mill
1	Solution hopper
2	Leather grinding machines.
	Motors to drive rotary plant.
	Benches, racks, trolleys and loose tools, etc.

Footwear Cured by the Peachey Process

A type of ladies' overshoes in attractive colors and designs now being cured by the process in a plant erected for Shoemacs, Ltd., is finding a ready market in this country.

The "uppers" of milled sheet rubber, tinted in various colorings, are attached to soles of this crepe and placed on special racks in the curing chamber.

This chamber holds a "charge" of approximately 200 pairs of overshoes.

The quantities of the two gases required per "charge" are:

40 c. ft. SO_2 — 8 lbs.
40 c. ft. H_2S — 4 lbs.

TECHNICAL ABSTRACTS

Vulcanization of Rubber

British Patent No. 229,253

The mercaptobenzothiazoles, their salts and disulphide derivatives are unlikely to find extensive industrial use as accelerators because they are so powerful as to lead easily to premature vulcanization in the mixing rolls. Anilinobenzothiazole and its homolgues containing lateral chains or groups in either benzene nucleus are sufficiently active for practical purposes without giving rise to any danger of premature effects. These substances are easily obtainable by the action of chlorine or bromine on the substituted thiocarbamides. With anilinobenzothiazole, used in the proportion of one per cent, produced by treating thiocarbanilide with bromine, a mixture of rubber, 100 parts by weight, sulphur, eight parts by weight and oxide of zinc, 10 parts by weight, is vulcanized within a period of 45 minutes at 144° C.

Materials from Rubber and Gutta Percha

British Patent No. 189,242 describes a process for the manufacture of plastic compositions with balata, rubber or gutta percha as the base. These gels or self-vulcanizing solutions of rubber, balata or gutta percha or mixtures of these substances are mixed with finely pulverized substances such as ground up leather scrap, wood, fibrous materials, cork and old rubber and made into plastic compositions which have a variety of uses.

Watching the News

THE LETTERS of Walter Hines Page, wartime ambassador to the Court of St. James, relate that the British Government so valued Herbert Hoover's ability that it would have conferred a peerage on him, had he been willing to renounce his American citizenship and undertake certain work for them. Undoubtedly such an award would have been popular with the British people. Today Mr. Hoover's standing in Great Britain has undergone a great, and to some extent a sorrowful change due to his energetic rubber protests. The comment of the chairman of the Dangan Rubber Estates, Limited, at the recent annual meeting of that company is typical.

"All sorts of queer and unexpected results have eventuated in the last year", said F. A. Govett, the chairman, "during which all sorts of people lost their heads, even those most unlikely to be guilty of such careless treatment, notably Mr. Hoover with his petulant protests against the rapacity of British producers.....

"Verily, the discordant facets of the human mind are inexplicable. Here we have a man of great ability, of infinite generosity and benevolence—witness his colossal work in Belgium and elsewhere—and here he is, regardless of our sufferings all these years during which the American consumer has fattened on our folly in over-production and is still fattening by his longtime forward contracts, trying to exact his pound of flesh. I have not found many small spots in Mr. Hoover but we all have some and I have the greatest difficulty to reconcile his present attitude with his broadminded character."

ACCORDING to the public prints King George has given his consent to having the picked troops, entrusted with guarding the royal family, wear rubber heels on their boots, but such permission was granted only after repeated entreaties from the general commanding the London metropolitan district. Some relief for the men required to tramp daily over the hard roadways and sidewalks around Buckingham Palace was regarded as necessary.

This final but reluctant recognition of the advantages of rubber heels recalls the early days of their adoption in this country. When they had first appeared, subordinates in one particular office were embarrassed at being found wearing them in the vicinity of the offices of the higher-ups lest the unaccustomed silence of their approach be construed as an attempt at eavesdropping. Three years later in the same office employees who had not changed over were known to apologize for their noisy leather heels.

OUT EAST WHERE the movement of rubber instead of rum is restricted, battling with smugglers goes merrily on. One who has been accustomed to reading the accounts of the fights with the American rum runners finds himself completely at home when he takes up a Malayan paper of almost any date. A recent issue of the *Straits Echo* contains the following dispatch:

"With her searchlight smashed and the well-scrubbed decks stained with patches of blood, the rubber restriction launch Sinbang cruised into the harbour from the west yesterday morning. Those who boarded the chaser were presented with the extraordinary scene of four dead bodies on board the vessel while the weary crew appeared with bandages over wounds which were so serious in some cases that the men had to be removed to the hospital.

"The C.P.O. and other police officials boarded the vessel and took statements from the crew. They were told of a surprise attack by some Bugis smugglers. The searchlight had been used and although it was a very dark night, those on the chaser were able to make out a fair amount of rubber on board the smugglers' kotah. The launch approached the kotah and went alongside when the smugglers scrambled on to the decks of the Sinbang and attacked the crew with knives....."

In another part of the news report it was admitted that this particular set of smugglers was a bit rougher than those usually encountered. The more common dispatch is to the effect that the offenders were brought in without bloodshed and given six months' sentences on the following day.

IT HAS BEEN said, and with apparent wisdom, that "happy is the industry whose name never appears in the headlines". If that is true, the rubber industry has seen happier days for during the last twelve months the reporters and "free-lance" men have brought rubber from an occasional paragraph on the financial page to a place of frequent prominence in the daily press. Such a change has naturally been accompanied with a great many inaccuracies, some of them startling to those truly familiar with the commodity. A review of a current novel recently stated that "novels written in French dealing with life in the United States are often so fantastically unreal that American readers are apt to peruse them with as much curiosity as if they dealt with some extinct or fictitious race." It is in the same spirit that those in the rubber industry have had to approach much of the information that has recently been disseminated concerning their work.

STATISTICAL SECTION

TIRES & TUBES
CRUDE RUBBER

AUTOMOBILES
GASOLINE

IN AN EFFORT to present important statistics helpfully instead of as unorganized "filler", as is so frequently done, THE RUBBER AGE has adopted the plan of publishing in a definite section the statistical tables of greatest interest to the rubber industry and thereafter keeping them up-to-date. The tables have been carefully selected and will appear in the same location in each issue, the only change being the insertion of figures which have become available since the previous issue went to press. In this way two of the principal demands surrounding useful statistics will be met, first —that they should be readily available and secondly—that they should be as near up-to-date as possible. Every effort will be made to meet the third and greatest consideration also, namely, that the figures be absolutely accurate. Throughout this section the statistics have been taken from original sources in almost every instance and will be kept current in the same way. If errors are detected, THE RUBBER AGE will appreciate having them called to its attention.

Average Spot Closing Prices--Ribbed Smoked Sheets

(New York Market)

Average Price per Pound for Years 1910-1920

Year	Cents	Year	Cents	Years	Cents
1910	206.60	1914	65.33	1918	60.15
1911	141.30	1915	65.85	1919	48.70
1912	121.60	1916	72.50	1920	36.30
1913	82.04	1917	72.23		

Average Monthly Price per Pound since 1921

Months	1921 Cents	1922 Cents	1923 Cents	1924 Cents	1925 Cents	1926 Cents
Jan.	19.18	18.82	32.73	25.86	36.71	79.50
Feb.	17.96	16.12	35.14	25.29	36.01	62.25
Mar.	17.05	14.53	34.21	23.83	41.00	59.00
Apr.	16.73	15.99	32.48	22.51	43.64	51.25
May	15.82	15.25	27.39	19.89	58.47	
June	12.49	15.11	26.88	18.81	77.26	
July	14.01	14.67	26.10	22.16	103.16	
Aug.	14.04	13.93	28.84	26.17	82.99	
Sept.	14.53	14.44	28.95	27.56	88.88	
Oct.	16.02	19.78	26.93	31.13	98.01	
Nov.	18.06	23.88	27.14	34.33	104.80	
Dec.	20.47	27.42	26.60	37.88	98.51	
Average for Year	16.36	17.50	29.45	26.20	72.46	

London Closing Prices of Ribbed Smoked Sheet

(In pence per pound)

Fourth Restriction Year—Third Quarter

Day	May	June	July	Day	May	June	July
1	24			16	——		
2	——			17	22½		
3	23½			18	21¾		
4	24¾			19	22½		
5	24¼			20	22¼		
6	23¼			21	22		
7	23½			22	——		
8	——			23	——		
9	——			24	——		
10	23½			25	21		
11	23¼			26	20¾		
12	23¾			27	20¾		
13	23			28	20¾		
14	22¾			29	——		
15	——			30	——		
				31	20½		

(The average price for the period for which daily prices are reported above is approximately 22.58 pence. The British Colonial Secretary has announced that only 80% of the standard production will be exportable from the restricted area during the next quarter if the price during the entire current quarter does not average at least 21 pence.)

Average Price in Previous Quarters

Quarter	1922-23	1923-24	1924-25	1925-26
Nov-Jan	14.285	14.175	17.9983	46.709
Feb-Apr	16.858	12.917	19.356	*28.686
May-July	14.242	10.974	38.469	
Aug-Oct	14.944	14.632	43.269	

*Unofficial figure.

U. S. Imports and Exports of Crude Rubber.

YEARS	Gross Imports: Long Tons	Gross Imports: Total Declared Value	Gross Imports: Average Declared Value per pound Cents	Re-exports: Long Tons	Re-exports: Total Declared Value	Re-exports: Average Declared Value per pound Cents	Net Imports: Long Tons
1900	22,026	$28,577,789	57.92	1,718	$2,839,668	73.77	20,308
1901	24,617	28,120,218	51.00	1,663	2,425,727	65.11	22,954
1902	22,702	25,158,591	49.47	1,457	1,877,698	57.52	21,245
1903	24,886	35,152,642	63.06	1,646	2,598,416	70.47	23,240
1904	27,629	43,784,297	70.75	1,540	2,749,234	79.70	26,089
1905	28,637	48,517,906	75.63	1,616	3,149,989	87.00	27,021
1906	30,316	53,391,137	78.62	1,676	3,153,775	84.02	28,640
1907	30,649	49,813,361	72.56	1,832	3,509,902	85.55	28,817
1908	34,058	44,696,526	58.59	1,655	2,466,428	66.52	32,403
1909	41,950	79,264,817	84.35	2,161	4,233,921	87.46	39,789
1910	40,241	98,007,295	108.73	2,749	8,134,064	132.07	37,494
1911	36,987	74,410,550	89.81	2,523	4,977,174	88.07	34,464
1912	52,705	99,567,071	84.34	2,456	4,692,262	85.31	50,249
1913	51,732	76,820,739	66.29	1,881	3,396,429	80.62	49,851
1914	63,868	70,472,704	49.26	2,618	3,244,346	55.32	61,250
1915	98,876	111,031,144	50.13	2,082	2,357,350	50.54	96,794
1916	120,576	159,745,475	59.15	4,098	5,330,100	58.07	116,478
1917	181,089	233,220,904	57.49	4,000	5,305,289	59.21	117,089
1918	145,518	146,378,313	44.91	2,746	3,133,622	50.95	142,772
1919	239,259	215,820,113	40.27	2,282	2,205,629	43.15	236,977
1920	252,922	242,795,773	42.86	4,160	2,846,898	30.55	248,762
1921	185,394	73,772,677	17.76	5,716	2,414,924	18.86	179,678
1922	301,076	101,843,188	15.10	4,809	1,921,828	17.84	296,267
1923	309,144	185,060,304	26.72	8,772	5,672,319	28.87	300,372
1924	328,056	174,231,331	23.71	10,309	6,057,637	26.23	317,747
1925:							
Jan.	32,898	22,406,756	30.41	1,162	963,593	37.02	31,736
Feb.	24,696	18,532,115	33.50	979	779,406	35.53	23,717
Mar.	33,072	25,146,691	33.94	1,345	1,105,119	36.69	31,727
Apr.	32,506	24,874,562	34.16	1,130	1,009,305	39.86	31,376
May	36,932	30,311,754	36.64	1,203	1,323,445	49.12	35,729
June	31,569	26,855,883	37.98	1,198	1,577,106	58.75	30,371
July	32,455	33,701,723	46.36	1,278	2,132,681	74.52	31,117
Aug.	33,412	39,834,348	53.22	1,131	1,623,258	64.08	32,281
Sept.	26,367	36,686,013	62.11	1,154	1,820,360	70.41	25,213
Oct.	34,651	50,027,338	64.45	1,132	1,989,291	78.48	33,519
Nov.	37,755	56,271,963	66.54	1,605	2,898,930	80.65	36,150
Dec.	40,329	65,055,868	72.02	1,510	2,625,259	77.61	38,819
	396,642	429,705,014	48.36	14,827	19,847,753	59.76	381,815
1926:							
Jan.	42,404	72,528,151	76.36	2,084	3,747,505	80.28	40,320
Feb.	32,865	58,733,370	79.78	1,430	2,280,168	71.17	31,435
Mar.	42,152	70,589,581	74.76	1,836	2,735,234	66.51	40,316
Apr.							
May							
June							
July							
Aug.							
Sept.							
Oct.							
Nov.							
Dec.							

United States Tire and Tube Statistics[1]

Production, Sales, and Inventories[2]

AUTOMOBILE CASINGS

	Production During Month					Sales During Month					Inventory at End of Month				
	1922	1923	1924	1925	1926	1922	1923	1924	1925	1926	1922	1923	1924	1925	1926
Jan.	2,740	4,170	4,294	4,740	4,721	2,194	4,114	3,785	4,013	2,974	5,566	6,261	6,411	7,949	9,947
Feb.	2,779	4,291	4,372	4,908	4,865	2,144	3,568	3,849	3,924	3,436	6,255	6,966	7,020	8,928	11,164
Mar.	3,528	5,154	4,570	5,276	5,456	2,847	4,570	3,988	4,657	4,561	6,911	7,561	7,684	9,510	12,004
Apr.	3,202	4,719	4,410	5,341		2,853	4,106	4,018	5,498		7,286	8,118	8,219	9,088	
May	3,629	4,880	4,051	5,467		3,608	3,793	3,693	5,954		7,364	9,209	8,442	8,611	
June	3,785	3,943	3,506	5,418		4,281	3,448	3,671	6,737		6,723	9,387	8,207	7,243	
July	3,302	2,657	3,403	5,587		3,678	3,463	4,748	6,298		6,445	8,628	6,851	6,421	
Aug.	3,874	3,141	4,313	5,607		4,153	3,803	5,010	4,760		6,173	8,078	5,969	7,261	
Sept.	3,340	2,706	4,708	5,007		3,407	3,563	4,539	4,569		6,149	7,197	6,033	7,681	
Oct.	3,566	3,148	5,169	4,505		3,534	3,821	4,196	5,580		6,244	6,502	7,118	6,670	
Nov.	3,644	3,200	4,253	4,229		3,248	3,408	4,480	3,671		6,620	6,252	6,943	6,955	
Dec.	3,543	3,250	4,584	4,760		4,040	3,547	4,143	3,601		6,132	5,772	7,427	8,142	
	40,932	45,259	51,633	60,845		39,987	45,204	50,120	59,262						

AUTOMOBILE INNER TUBES

	Production During Month					Sales During Month					Inventory at End of Month				
	1922	1923	1924	1925	1926	1922	1923	1924	1925	1926	1922	1923	1924	1925	1926
Jan.	3,125	5,269	5,184	6,343	6,809	2,552	5,091	4,723	5,576	3,723	6,996	7,784	8,960	11,570	14,361
Feb.	3,462	5,386	5,424	6,339	6,825	2,310	4,085	4,530	4,971	3,736	8,189	9,029	9,786	13,023	17,090
Mar.	4,023	6,501	5,625	7,000	7,030	2,848	5,214	4,667	5,711	4,987	9,321	10,321	10,877	14,236	19,131
Apr.	3,534	5,679	5,380	6,851		3,162	4,825	4,782	6,704		9,640	11,192	11,503	13,618	
May	3,961	5,757	4,992	6,846		3,995	4,651	4,865	8,040		9,586	12,390	11,682	12,501	
June	4,174	4,787	4,658	6,942		5,391	4,882	5,286	9,032		8,249	11,899	10,888	10,409	
July	4,091	3,500	5,143	7,544		4,905	5,374	7,190	9,140		7,568	9,862	8,845	8,635	
Aug.	5,078	4,771	6,688	7,618		5,733	5,800	7,493	6,923		6,943	9,267	7,678	9,271	
Sept.	4,669	4,339	7,342	7,254		4,797	4,966	6,908	6,665		6,886	8,610	8,052	9,950	
Oct.	5,050	5,140	7,861	6,612		4,618	4,848	5,700	7,845		7,317	9,198	9,803	8,726	
Nov.	5,135	4,602	6,136	6,266		4,165	4,604	6,332	5,406		8,280	8,925	10,224	9,491	
Dec.	4,548	4,385	6,273	6,999		5,197	4,782	5,540	4,991		7,643	8,425	11,052	11,313	
	50,850	60,116	70,706	82,614		49,673	59,072	68,016	81,004						

(1) *Statistics of The Rubber Association of America, raised to 100%.* (2) *All figures expressed in thousands.*

Stock of Crude Rubber in United States and London

(All Quantities in Long Tons)

UNITED STATES

At End of	ON HAND			AFLOAT			ON HAND AND AFLOAT		
	1924	1925	1926	1924	1925	1926	1924	1925	1926
Jan.	——	60,870	55,198	——	36,759	46,296	——	97,629	100,434
Feb.	——	54,109	58,035	——	41,475	46,935	——	95,584	104,970
Mar.	——	52,494	61,822	——	40,577	43,567	——	93,071	105,389
Apr.	——	50,143		——	53,465		——	103,608	
May	——	52,064		——	46,846		——	98,910	
June	——	50,997		——	51,202		——	102,199	
July	——	46,245		——	46,003		——	92,248	
Aug.	——	42,354		——	41,254		——	83,608	
Sept.	——	36,367		——	55,151		——	91,518	
Oct.	55,378	34,085		46,359	51,098		101,737	85,183	
Nov.	59,017	34,885		35,685	42,692		94,702	86,577	
Dec.	56,080	51,215		46,216	48,208		102,296	99,423	

(Rubber Association of America figures raised to 100%.)

LONDON

(In Wharves and Warehouses—Figures Include Latex)

At End of:	1920	1921	1922	1923	1924	1925	1926
January	19,300	56,573	67,232	73,498	57,460	27,172	9,994
February	18,329	59,439	67,623	70,483	56,732	23,425	10,004
March	18,969	63,913	66,670	63,438	55,647	18,104	13,750
April	20,072	68,759	68,637	58,770	54,559	12,949	18,951
May	20,921	70,403	70,146	54,439	51,615	5,895	
June	22,517	69,408	71,597	51,050	51,115	5,318	
July	25,346	71,065	71,515	49,937	52,073	4,258	
August	30,674	73,211	72,112	48,427	49,700	4,619	
September	35,504	72,175	70,977	54,523	44,011	5,453	
October	41,743	69,229	68,536	58,891	37,523	5,086	
November	45,550	70,786	68,548	60,074	33,593	3,869	
December	50,652	69,792	72,299	60,246	29,488	5,697	

United States Consumption of Gasoline

(Gallons)

MONTHS:	1918	1919	1920	1921	1922	1923	1924	1925	1926
January	144,579,291	169,240,627	236,073,140	294,750,791	282,717,148	456,967,163	500,420,689	595,413,000	720,358,000
February	147,204,377	185,900,192	248,395,214	225,195,372	262,925,732	380,093,070	402,703,876	543,640,000	650,718,000
March	219,333,317	201,004,317	256,020,539	346,164,546	380,406,778	446,460,208	467,181,088	625,053,000	779,571,000
April	265,151,411	243,440,615	297,000,463	333,290,921	385,230,994	485,716,788	607,175,026	798,305,000	
May	313,824,603	327,610,273	378,912,692	354,263,486	499,724,405	582,535,781	672,495,321	841,787,000	
June	306,677,723	305,960,438	427,747,291	442,924,973	506,959,446	633,504,590	682,409,140	868,350,000	
July	353,589,555	296,242,260	434,878,617	457,758,078	566,099,329	674,019,467	789,666,590	963,071,000	
August	339,435,744	376,484,274	479,741,391	505,035,827	583,687,932	692,154,000	828,057,847	931,901,000	
September	284,685,213	367,633,742	450,888,670	438,083,634	507,924,207	655,797,616	718,068,623	848,867,000	
October	299,642,892	338,429,709	384,802,246	454,995,551	490,393,454	621,172,668	751,499,199	831,774,000	
November	245,278,844	284,620,809	366,567,344	350,548,481	471,616,103	538,308,809	698,359,199	757,744,000	
December	209,863,377	238,245,230	289,673,556	313,015,596	434,399,514	518,305,120	657,967,000	759,699,000	
TOTAL	3,129,266,347	3,434,812,486	4,250,696,163	4,516,027,256	5,372,085,042	6,685,035,280	7,770,238,000	9,365,604,000	

Exports of Crude Rubber from Principal Producing Countries

(Figures in Long Tons)

	British Malaya[1]								Dutch East Indies[5]			French[7]		
	Gross Exports	Imports	Net Exports	Ceylon[2]	India & Burma[3]	Sarawak[4]	Br. North Borneo[4]	Siam[4]	Java & Madura	Sumatra E. Coast	Other D.E.I.	Indo-China	Amazon Valley[6]	Total[7]
1923	252,016	70,432	181,584	37,112	6,416	5,433	1,744	1,718	32,938	44,002	57,822	5,606	19,859	394,263
1924	259,760	107,419	152,341	37,351	7,697	6,485	1,892	2,962	42,446	52,499	80,347	6,688	23,164	413,872
1925	316,825	158,022	158,803	45,684	10,082	8,460	2,308	5,378	46,643	62,678	119,271		25,307	
1925:														
Jan.	19,183	10,132	9,051	3,065	1,090	605	180	404	3,053	5,097	5,858	701	1,712	30,816
Feb.	21,622	10,071	11,551	2,207	1,121	469	148	283	3,490	5,139	8,569	586	2,977	36,540
Mar.	26,836	13,399	13,437	4,201	984	756	209	437	4,583	5,499	10,807	487	2,459	43,859
Apr.	22,414	11,751	10,663	3,250	684	483	164	384	4,121	4,663	8,536	482	1,585	35,015
May	26,667	12,979	13,688	2,600	585	717	189	489	3,624	4,455	12,006	599	2,588	41,540
June	27,894	14,706	13,188	3,502	831	1,046	195	430	4,187	4,667	10,644	833	1,653	41,176
July	24,809	16,192	8,617	4,487	680	955	218	533	4,719	5,244	10,516	411	1,142	37,522
Aug.	27,753	12,025	15,728	3,409	671	548	194	436	3,210	5,186	9,445	484	1,810	41,121
Sept.	29,425	12,913	16,512	4,758	745	766	218	533	3,364	4,913	10,628	764	2,140	45,341
Oct.	28,711	14,986	13,725	5,270	516	639	199	708	3,516	5,511	11,767	683	2,240	44,774
Nov.	31,648	14,904	16,744	3,980	1,044	838	186	411	4,657	6,349	11,958	991	2,620	49,778
Dec.	29,863	13,964	15,899	4,955	1,131	638	208	330	4,119	5,955	8,537		2,381	
	316,825	158,022	158,803	45,684	10,082	8,460	2,308	5,378	46,643	62,678	119,271		25,307	
1926:														
Jan.	30,452	10,237	20,433	4,058	1,273	416	196	288						
Feb.	30,440	8,306	22,134	4,941	725									
Mar.	35,012	14,800	20,212	5,704										
Apr.														
May														
June														
July														
Aug.														
Sept.														
Oct.														
Nov.														
Dec.														

(1) Malayan net exports cannot be taken as Malayan production since much of the imported rubber contains a high percentge of moisture and impurities which are eliminated before it is re-exported; the Malayan figures do not contain rubber exported as latex which on the basis of 3 pounds per gallon amounted to 99 tons in 1923, 957 tons in 1924 and 3,101 tons in 1925. (2) Ceylon Chamber of Commerce statistics until 1926. (3) Official statistics. (4) Figures for Sarawak, British North Borneo and Siam are imports from these territories into Singapore through which port practically their entire production moves. (5) Exports from "Other Dutch East Indies" are chiefly native rubber containing a high percentage of moisture and impurities for which no allowance has been made in the statistics; rubber shipped as latex has not been included and amounted to 6,355 tons in 1923, 2,735 tons in 1924 and 6,207 tons in 11 months of 1925. (6) Exports through Para, Manaos and Iquitos. (7) This total includes the net exports from British Malaya and all the figures shown for the other territories.

Net Imports of Crude Rubber into Principal Manufacturing Countries

(Long Tons)

	UNITED STATES	UNITED KINGDOM	FRANCE (abd)	GERMANY	CANADA (ac)	JAPAN (ac)	ITALY	RUSSIA (ce)	AUSTRALIA (cf)	BELGIUM (d)	NETHERLANDS	SWEDEN (abcd)	NORWAY (abc)	DENMARK (abd)
1919	236,977	42,671	19,951	5,584	8,770	10,688	9,894	75	311	3,995	2,771	2,022	437	673
1920	248,762	56,844	15,868	11,890	11,912	6,015	6,123	62	787	3,840	5,510	1,567	241	479
1921	179,678	42,087	16,981	21,920	8,248	22,981	3,906	165	191	1,705	1,022	813	178	251
1922	296,267	11,724	27,644	27,546	9,366	16,449	6,430	2,453	1,941	172	−3,807	1,248	321	87
1923	300,372	12,700	31,067	18,519	13,299	17,181	8,489	4,506	1,445	2,184	792	1,391	448	354
1924	317,747	−11,550	34,488	22,727	14,420	19,612	8,764	824	2,845	2,688	−807	1,781	669	473
1925	381,815	4,061	36,911	33,937	19,825		11,412	7,088	3,600	2,930	875	1,690	701	440
1925:														
January	31,736	−284	2,147	4,303	1,432	797	552	333		331	109	164	64	16
February	23,717	−2,492	3,529	3,690	1,278	658	908	1,000		275	88	136	145	37
March	31,727	−3,396	3,924	2,784	2,349	689	1,463	1,083		373	56	183	77	71
April	31,376	−2,961	3,069	3,574	1,397	719	817	535		97	181	149	47	22
May	35,729	−8,650	3,223	3,834	1,532	863	1,060	1,999		328	47	126	47	16
June	30,371	619	2,387	3,239	1,681	2,095	1,506	59		329	120	97	43	74
July	31,177	2,204	1,827	2,606	1,613	813	650	16		176	28	114	45	24
August	32,281	3,825	1,109	2,942	1,582	786	631	85		169	76	119	53	35
September	25,213	5,369	4,633	2,667	1,202	936	939	234		283	136	102	54	20
October	33,519	1,203	3,039	2,325	1,799	1,060	914	21		255	60	159	38	38
November	36,150	2,466	4,654	1,260	1,712		1,157	190		236	−12	219	55	52
December	38,819	6,158	3,370	713	2,248		815	1,533		178	−14	122	33	35
1926:														
January	40,320	6,439	3,170	703	2,188		760	332			154	123	46	51
February	31,435	3,114	3,513	1,113	1,685			643			89	171		94
March	40,316	8,907						832				213		
Apr.														
May														
June														
July														
Aug.														
Sept.														
Oct.														
Nov.														
Dec.														

a—Including gutta percha. b—Including balata. c—Reexports not deducted. d—Believed to include scrap and reclaimed rubber. e—Russian statistics are exports from United Kingdom only to Russia. f—Australian annual statistics including 1924 are exports to Australia from Malaya, Ceylon, and United Kingdom; total for 1925 is estimated; monthly figures are being prepared. −Minus sign, reexports in excess of imports. *All statistics from original official trade returns.*

Daily Spot Closing Prices of Ribbed Smoked Sheet Rubber—*New York Market, in Cents per Pound*

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	Average
1924																																
Jan.	25⅝	26¼	26⅜	26⅛	26⅜	25¼	26⅜	26⅜	26⅜	26¼	26⅜	26⅜	—	25⅜	26¼	26	26¼	25⅝	25⅝	—	25⅛	25¼	25⅜	24⅞	25⅜	25½	—	28	29	30	25	25⅛
Feb.	25⅝	25⅝	—	—	25⅝	25⅛	25⅝	25⅝	25⅝	25⅝	25⅝	25⅝	—	25½	25⅝	25½	25⅝	25⅝	25⅝	25⅝	25⅝	25⅝	25⅝	25⅝	25⅝	25⅝	25⅝	25⅝	25¼	—	25	25⅛
Mar.	25⅝	—	24⅜	24	24¼	24⅛	24⅛	24¼	24⅜	23⅝	23⅝	22⅝	22⅝	23⅝	22⅝	23⅛	22⅝	22⅝	22⅝	22⅝	22⅝	22⅝	22⅝	23¼	22⅝	22⅝	22⅝	21⅝	22⅝	—	22	22¼
Apr.	22½	22⅞	22⅜	22⅛	21⅝	21⅛	21½	22¼	22⅜	22¼	22¼	22¼	20⅝	23⅜	22¼	22¼	22¼	22¼	21¾	22¼	21⅝	22⅛	22⅜	23¼	22⅜	21⅝	21⅝	21⅝	22⅝	22⅝	18⅜	22⅛
May	22⅝	21⅞	22	19⅜	19⅜	19⅜	19⅜	21	21	19⅜	19⅜	19⅜	20⅜	19⅜	19⅜	20	19⅜	18⅜	18⅜	18	18⅜	18⅜	18⅜	19⅜	18⅜	18⅜	18⅜	18⅜	18⅜	18⅜	19	19⅜
June	18⅜	18⅝	19⅜	19⅜	—	25	25⅜	26⅜	27	27¼	27¼	27	25¾	27⅜	27⅜	27⅜	27⅜	27⅜	27⅜	27⅞	27¼	26⅝	26½	27⅜	26⅜	26⅜	26⅜	26⅜	26⅜	26⅜	23¼	18⅜
July	18⅜	19¼	19⅜	—	24	26⅜	26⅜	27¼	29½	30	31	30⅝	31½	30⅝	31½	31½	31½	31½	31½	31⅝	32¼	32⅛	32⅜	32⅜	32⅜	32⅜	32⅜	32⅜	32⅜	32⅜	34¾	22⅜
Aug.	23⅜	23⅜	26¼	26⅜	26⅜	29⅜	29⅜	29⅜	34½	34¼	34¼	34¼	34¼	34¼	34¼	34¼	34¼	34¼	34¼	34¼	34	33⅝	33⅝	34	34⅜	34⅜	34⅜	34⅜	34⅜	34⅜	31½	26⅜
Sept.	26⅜	26¾	29½	29⅜	34¾	34¼	34¾	34¾	36	37⅜	37⅜	37⅜	37⅜	37⅜	37⅜	37⅜	37⅜	37⅜	37⅜	38⅜	38⅜	39¼	39¼	38⅜	38⅜	38⅜	38⅜	38⅜	38⅜	39⅜	33⅜	27½
Oct.	26⅜	29½	34⅜	36	36⅜	37⅜	—	36	37⅜	37⅜	37⅜	37⅜	37⅜	38	38	38⅜	38⅜	38⅜	38⅜	38⅜	38⅜	38⅜	38⅜	38⅜	38⅜	38⅜	38⅜	38⅜	39⅜	40⅜	37⅜	
Nov.	35⅛	35⅜	36																													
Dec.																																
1925																																
Jan.																																
Feb.																																
Mar.																																
Apr.	41¼	41⅞	41¼	41⅜	42¼	42⅛	42½	43⅛	43⅜	43⅜	42⅜	42⅜	42⅜	44⅜	44⅜	44⅜	44⅜	44⅜	44⅜	44	44	44⅛	44⅛	44⅛	44⅛	44⅛	44⅛	44⅛	44⅛	44⅛	42⅜	41
May	45	45⅞	47¼	46⅜	47¼	48⅜	50⅜	52⅜	55⅜	55⅜	59	57	59⅜	60⅜	64¼	63	61⅜	61⅜	61⅜	61⅜	61⅜	61⅜	61⅜	61⅜	61⅜	61⅜	61⅜	61⅜	61⅜	61⅜	44⅛	43⅜
June	69½	72	76½	75¾	75¾	75⅝	74⅞	74⅞	73⅜	74	75¼	76¾	73⅜	74⅜	73⅜	72⅜	73⅜	75⅛	76¼	76¼	76¼	76¼	76¼	76¼	76¼	76¼	76¼	76¼	76¼	76¼	76¼	58⅛
July	81⅛	81⅞	74⅜	85⅜	85⅜	86⅜	90⅛	95⅜	94⅞	99⅞	106⅞	105⅞	110⅞	105⅞	116⅞	116⅞	117	116⅞	116⅞	117	117⅛	119	117⅞	117⅞	117⅞	117⅞	117⅞	117⅞	117⅞	117⅞	77⅞	
Aug.	94½	95½	85⅜	88⅜	85⅜	86⅜	81⅜	79	78¾	80⅜	81⅜	80⅜	105⅜	80⅜	80⅜	80⅜	80⅜	80⅜	80⅜	83⅛	82½	82½	82½	82½	82½	82½	82½	82½	82½	82½	103⅜	
Sept.	88¼	87½	85	81¼	81¼	86¾	81⅜	78¼	80⅜	83	86⅜	92	92½	93⅜	93⅜	93⅜	93⅜	93⅜	93⅜	94¼	92¾	92¾	93¼	93¼	93¼	93¼	93¼	93¼	93¼	93¼	90	83
Oct.	91¼	91¾	92		94½	97	97½	99	99¼	101	99¼	100¼	101¾	104½	105⅜	97	99	99	99	101¼	102	99	99¼	99¼	99¼	99¼	99¼	99¼	99¼	99¼	89½	88⅞
Nov.	99¼	99¾		98⅜	98¼	100	100½		99¼	106	105½	105½	—	101	—	109	107	107	109¾	110¾	110½	110½	110¾	109	106¼	—	107	101½	99¼	100¼	98	
Dec.	106⅝	108¼	107⅞	107¼	108¼	—	108	109	109¼	106	105½	105½	—	101	99¼	90¼	93	88¼	86¾	—	88¼	90⅛	88⅜	88¾	88¾	108¾	108¾	91	93	91¼	98⅜	
1926																																
Jan.																																
Feb.	67	67¼	66¼																													
Mar.	55	53	53																													
Apr.	59		59																													
May	46¼		50																													
June																																
July																																
Aug.																																
Sept.																																
Oct.																																
Nov.																																
Dec.																																

Automobile Production

	Passenger Cars			Trucks		
	Total	United States	Canada	Total	United States	Canada
1920	1,883,158	1,799,522	83,636	322,039	311,531	10,508
1921	1,514,000	1,452,902	61,098	147,550	142,402	5,148
1922	2,397,827	2,302,923	94,904	251,434	244,285	7,149
1923	3,719,164	3,589,936	129,228	378,288	361,078	17,210
1924						
January	293,824	283,983	9,841	30,785	29,038	1,747
February	343,460	331,388	12,072	32,974	31,295	1,679
March	357,045	341,851	15,194	36,505	34,466	2,040
April	346,405	331,957	14,448	38,037	36,104	1,933
May	286,324	271,033	15,291	35,408	33,655	1,753
June	225,079	214,322	10,757	29,135	28,185	950
July	244,544	235,925	8,619	26,448	25,341	1,107
August	255,232	249,796	5,436	28,714	27,834	880
September	243,528	236,940	6,588	32,015	30,663	1,351
October	260,881	254,524	6,357	32,533	31,263	1,270
November	204,343	198,381	5,962	27,956	26,875	1,081
December	182,099	174,899	7,200	27,596	25,906	1,690
Total	3,262,764	3,144,999	117,765	378,106	360,625	17,481
1925						
January	212,921	204,620	8,301	28,198	26,633	1,565
February	252,803	242,024	10,779	34,467	32,774	1,693
March	332,154	319,140	13,014	45,168	43,079	2,089
April	391,302	375,787	15,515	47,898	46,322	1,576
May	382,714	364,363	18,351	43,380	41,492	1,888
June	364,806	350,557	14,249	38,141	36,347	1,794
July	358,554	347,414	11,140	41,915	40,070	1,845
August	221,831	214,401	7,430	37,843	36,357	1,486
September	272,425	262,053	10,372	60,452	57,972	2,480
October	406,572	392,651	13,921	46,003	44,309	1,694
November	336,358	327,617	8,741	40,077	37,840	2,237
December	285,199	277,701	7,498	34,477	32,746	1,731
Total	3,817,639	3,678,328	139,311	498,019	475,941	22,078
1926						
January	283,263	272,011	11,252	32,637	29,659	2,978
February	334,529	318,634	15,895	40,816	37,533	3,283
March	398,042	379,769	18,273	51,635	47,788	3,847
April	402,574	382,631	19,943	53,268	50,272	2,996
May						
June						
July						
August						
September						
October						
November						
December						

U. S. Consumption of Crude Rubber

(Rubber Association of America statistics raised to 100 per cent—All figures in long tons)

	1921	1922	1923	1924	1925	1926
January					29,638	32,196
February					29,761	31,136
March			96,776[2]	83,164[2]	33,498	32,936
April					34,139	32,696
May					35,322	
June	65,466[1]	127,360[1]	89,493[2]	75,674[2]	35,822	
July					36,053	
August					35,909	
September			55,621[2]	83,813[2]	31,691	
October				31,520	29,047	
November				27,289	28,853	
December	105,963[1]	155,068[1]	63,617[2]	27,199	28,748	
TOTALS	171,429	282,428	305,507	328,659	388,481	

(1) This figure represents six months total; monthly figures not available.
(2) Three months total; monthly figures not available.

Monthly statistics covering shipments of various classes of rubber goods from the United States may be secured free of charge from the Rubber Division, Bureau of Foreign & Domestic Commerce, Washington, D.C.

The Market Place

WHERE TO OBTAIN
Machinery, fabrics, chemicals, compounding ingredients, crude and reclaimed rubber, consulting chemical
1.

ACCELERATORS—X L O and Diphenyl Guanidine.
Dovan Chemical Corp.
30 Church St. New York

ACCELERATORS — Two new accelerators: Vulcone and Di-ortho-tolylguanidine.
E. I. du Pont de Nemours & Co., Inc.
Dyestuffs Dept. Sales Div.
Wilmington, Del.

ACCELERATORS
Grasselerator 102
Grasselerator 552
Grasselerator 808
Grasselli Chemical Co.
Rubber Service Dept.
347 Madison Ave., New York

ACCELERATORS— Every lot is tested before shipment and a written guarantee of quality furnished.
Roessler & Hasslacher Chem. Co.
709 Sixth Ave. N. Y. City

ACCELERATORS—A19, A7, Thiocarbanilid.
The RUBBER SERVICE Laboratories Co.
611 Peoples Savings & Trust Bldg.
Akron Ohio

ANTIMONY Pentasulphide, golden and crimson, very fine, pure.
Rare Metal Products Co.
Belleville, N. J.
Direct Factory Representation

ASBESTINE—Specially prepared for use in Rubber. Send for liberal working sample.
SOLE PRODUCERS
International Pulp Co.
41 Park Row, New York City

The* BLUE LIST *of the Industry

Your Products Listed Here

reach buyers in rubber factories at a cost lower than is possible by any other method.

ARRANGE FOR YOUR LISTING TODAY!

BEAD CABLES— National Flat Woven and Pratt Patent Bead Cables.
National Standard Co.
Niles, Mich.

BOLTON BIAS CUTTER
Cuts cord or flat woven fabrics with equal ease and precision. In use all over the world.
Spadone Machine Co., Inc.
15 Park Row New York

CALENDERS—Embossing, for artificial leather, oil cloth etc.
Textile-Finishing Machinery Co.
83 Exchange Place, Providence, R. I.

CARBON BLACK—*Micronex* the world's standard gas black, universally known as the "King of Rubber Pigments."
Binney & Smith Co.
41 East 42nd St. New York City

CARBON BLACK
Godfrey L. Cabot, Inc.
Manufacturers for forty years.
940 Old South Bldg., Boston, Mass.
612 Metropolitan Bldg., Akron, O.

CARBON BLACK—*Aerfloted* Arrow Black for rubber compounding. Standard for grit-free uniformity.
J. M. Huber, Inc.
130 West 42nd St. New York

CARBON BLACK — *Black Goose Brand*—free from grit and impurities and imparts high tensile strength to the rubber compound.
Union Power Co., Inc.
310 United Bldg., Akron, Ohio. 607 Com'l. Nat'l. Bank Bldg., Shreveport, La.
25 West 43rd St., New York, N. Y.

CARBON BLACK or any other compounding material used by rubber manufacturers can be marketed at low cost by listing it in *The Market Place.*

CASES—Fibre construction, insure satisfactory shipping results. Send for sample.
Brooklyn Fibre Syndicate, Inc.
Decatur St. & Irving Ave.
Brooklyn, N. Y.

CATALPO — The universal and standard rubber pigment now being used in treads, solids, tubes, carcass frictions, etc.
Moore & Munger
33 Rector Street
New York City

CHEMISTS read your listing in the MARKET PLACE. There is no cheaper way to reach these prospects.
Try It!

THE MARKET PLACE Section Continued on Second Page Following.

MARKETS

Cottons and Fabrics

NEW YORK, June 2, 1926

Light trading and narrow fluctuations were the main characteristics of the cotton market for the week ending May 23. On most of the trading days the spread of fluctuations did not exceed ten points, while the total variation between the highs and lows for the week as a whole hardly reached 30 points.

The comparative steadiness of the market had been due to the fact that traders are still in doubt as to prospects for the new crop. While most of them believe that good weather from now on would enable the crop fully to overcome the unsatisfactory start, the weather has continued sufficiently unsettled and the temperature too low to hold out any distinct promise of more favorable conditions as the season advances.

Trend of Prices is Upward

During the last week in May the market drifted along in very narrow trading and with even narrower price fluctuations than had been the rule in recent weeks. The trend of prices had been slowly upward because the general average of the weather and crop news had been unfavorable enough to create a growing doubt in the minds of traders as to the outlook for the new crop.

Weather during the Decoration Day week-end developed rains over a large section of the Western belt, many stations in Oklahoma, Arkansas and Texas reporting over an inch both Sunday and Monday, with showers in the Mississippi Valley region. Very little moisture occurred in Georgia or the Carolinas where drought is most severe.

The Journal of Commerce placed the condition at 65.9 as compared with 73 last year and 64.4 in 1924. A reduction of 2.3 per cent from Government figures in acreage was indicated by Southern correspondents with a total of 46,367,000 as against 42,819,000 last year and an official estimate of 47,459,000 for the States covered by the publication. The crop is estimated to be about eighteen days late on the average, ranging from thirteen days behind normal in Georgia to twenty-two days in Texas and Louisiana.

With no new developments in the general cotton situation to revive speculative activity today, trading continued light and price fluctuations narrow. It continues to be largely a waiting market, principally on the resumption of trade buying in Europe and also weather developments. Today's quotations follow:

	High	Low	Today's close	May 15 close
July	18.35	18.30	18.35@18.36	18.32
October	17.59	17.53	17.57@17.58	17.53
December	17.55	17.50	17.52@17.53	17.57
January	17.49	17.43	17.48@17.49	17.49
March	17.62	17.55	17.64@17.65	17.61

Tire Fabrics

The activity in tire fabrics which was noted in our last report has continued up to this writing. Though inquiries and orders placed have increased, they were mostly for spot or near-by positions with little interest being shown in Summer or Fall deliveries. This activity has served to buoy up those fabric mills which had decided to curtail sharply and indicates that tire manufacturers are expecting a rapid depletion of accumulated stocks of tires. Excellent weather in many parts of the country is responsible for this feeling. Prices have shown no change, being nominal on most grades at this writing. Quotations follow:

CORD

Combed Peeler	lb.	.48 @	.50
Carded Peeler		.44 @	.46
Combed Egyptian uppers	lb.	.58 @	.60
Carded Egyptian uppers	lb.	.50 @	.51

SQUARE WOVEN

17¼-ounce Egyptian uppers, combed	lb.	Nominal	
17¼-ounce Egyptian uppers, carded	lb.	.49 @	.50
17¼-ounce Sakellarides, combed	lb.	Nominal	
17¼-ounce Peeler, carded	lb.	.45 @	.46

Sheetings and Ducks

SHEETINGS—During the past few weeks interest in sheetings has been slight and quotations have eased off in several sizes. 40-inch 2.85 yd. is now quoted at 11½ c. which is a decrease of over ¼ c. while similar reductions were made on the 3.60, 3.75 and 4.25 yd.

DUCKS—Orders for ducks have on the whole been quiet and for small lots only. Enameling and single filling have had some interest, the former at 17 c. and the latter at 38 c. In many instances small orders are being placed and factors do not look for any decided improvement until late in the summer. Quotations follow:

SHEETINGS

40-inch 2.50-yard	yd.	.13⅛ @	—
40-inch 2.85-yard	yd.	.11½ @	—
40-inch 3.15-yard	yd.	.12⅜ @	—
40-inch 3.60-yard	yd.	.10⅛ @	.10¼
40-inch 3.75-yard	yd.	.08⅝ @	.08⅞
40-inch 4.25-yard	yd.	.07⅝ @	.07⅞

DUCKS

Belting	lb.	.36 @	.38
Hose	lb.	.36 @	.38
Enameling	lb.	.35 @	.40
Shoe Ducks	lb.	.40 @	—
Single filling	lb.	.15 @	.18
Double filling	lb.	.18½ @	.20

J. H. LANE & CO.

Tire Fabrics Cord Fabrics

Enameling Duck Drill Sheeting

Osnaburg and Special Constructions

250 W. 57 Street, NEW YORK 323 South Franklin St., CHICAGO

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The Market Place

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CRUDE RUBBER — All Grades. Washed - Dried - Milled. *Send us Your Inquiries.*

Gibraltar Rubber Corp.
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Importers and Dealers
Members Rubber Exchange of N. Y., Inc. and Rubber Exchange Clearing House, Inc.
Henderson, Helm & Co., Inc.
44 Beaver St., New York
Weekly Market Review on Request

FABRICS—Tire fabrics, Egyptian—Peeler, Karded and Combed, Cord and Square.

Cabarrus Cotton Mills
(Cannon Mills, Inc.)
55 Worth St. New York
827 S. La Salle St. Chicago

CHEMICAL MNFRS.

Over 30 chemical firms are using *The Market Place* regularly. The cost is moderate and results sure!

The Rubber Age
225 Fourth Ave., New York

CRUDE RUBBER

Plantations, Central America, African, Brazilian, Mexicans — *Direct Connections in all Rubber Centers in the World.*

Sanitas Rubber Products Corp.
17 Water St., New York

FABRICS—Spots and Contracts: Tire Fabrics, Enameling ducks, Tube Wrapping Tapes.

H. Frank Jones
395 Broadway New York City

CHEMICALS — Accelerators
Trimene Base, Heptene, Monex, Crylene, Lithex, Thiocarbanilide, Aniline Oil.
Clay—Mineral Flour, Seminole (Georgia).
Antioxidant—VGB, a proven product.
Labels—all-rubber two color brands.

Naugatuck Chemical Co.
1790 Broadway, New York.

CRUDE RUBBER
Importers
Members Rubber Exchange of N. Y., Inc. and Rubber Exchange Clearing House, Inc.
Charles T. Wilson Co., Inc.
82 Beaver St., New York
AKRON OFFICE: 507 Second Nat'l. B'ldg.

FABRICS—Tire, cords, enameling ducks, drills, sheetings, osnaburgs.

J. H. Lane & Co.
250 West 57th St. New York City

CHEMICALS and compounding ingredients; Clay, Whiting, Accelerators, Mineral Rubber.

R. T. Vanderbilt Co.
50 East 42nd St. New York City

DIPHENYLGUANIDINE

Aero Brand, product of the highest purity from dependable source of supply.

American Cyanamid Co.
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FABRICS—Tire fabrics—coarse builders, chafers, breakers in all grades.

New England Southern Mills
LAWRENCE & CO.
24 Thomas St. New York
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CHEMICALS and pigments for the rubber trade. Complete stocks.

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CHICAGO CLEVELAND NEW YORK

DRY KILN—for drying crude rubber and chemicals—Hunter Process.

Carrier Engineering Corporation
750 Frelinghuysen Ave. Newark, N. J.

FABRICS—Stockinets, Jersey Cloth and Special Fabrics for the Rubber Industry.

U. S. Knitting Co., Inc.
Pawtucket, R. I.

CONSULT BANNER
Before You Buy
TIRE BUILDING MACHINES
The Banner Machine Co.
Columbiana, Ohio
Paul A. Frank, Akron, Ohio, Agent.

ENGINEERS
Machinists, Iron and Steel Founders
Standard and Special
Rubber Working Machinery
The Adamson Machine Co.
Akron, Ohio

FACTICE—Prevents blooming, makes colors fast and a smoother batch.

Stamford Rubber Supply Co.
Stamford, Conn.

THE MARKET PLACE Section Continued on Second Page Following.

RUBBER MARKETS

Scrap Rubber

NEW YORK, June 2, 1926

Scrap quotations have become firmer in the past few weeks with slightly increased prices on tube, tire and hose scrap. Demand from reclaimers continues in good force while dealer's stocks are somewhat reduced. Prices follow:

Auto tire peelings		.01¼	@	.01⅜
Standard White auto	ton	44.00	@	45.00
Mixed auto	ton	24.00	@	25.00
Bicycle tires	ton	15.00	@	17.00
Clean solid truck tires	ton	37.00	@	40.00
Boots and shoes		.02	@	.02⅛
Arctics, untrimmed		.01	@	.01⅛
Arctics, trimmed		.01¼	@	.01⅜
Inner tubes, No. 1		.09⅝	@	.10
Inner tubes, No. 2, compounded		.07½	@	.07¾
Air Brake Hose	ton	25.00	@	28.00
Rubber hose	ton	20.00	@	—

Reclaimed Rubber

NEW YORK, June 2, 1926

The rubber manufacturers continue to use reclaimed in increasing amounts with the result that reclaimers are still somewhat behind in deliveries. Plants are maintaining high production schedules to keep up with the demand. Prices are firm with no changes reported since our last issue. Quotations follow:

Friction (Uncured)

No. 1	lb.	.40	@	.42
No. 2	lb.	.30	@	.32

High Tensile Black

Super-Reclaim No. 1	lb.	.24	@	.25
" " No. 2	lb.	.18	@	.19

Shoe

Unwashed	lb.	.10⅛	@	.10¾
Washed	lb.	.12¾	@	.13

Tube

No. 1 (Floating)	lb.	.25	@	.26
No. 2 (Compounded)	lb.	.18	@	.19

Tires

Black, unwashed	lb.	.10¾	@	.11
Black, washed	lb.	.12	@	.12⅛
Black, selected tires	lb.	.12½	@	.12¾
Dark Gray	lb.	.14⅛	@	.15½
Light Gray	lb.	.16½	@	.17½
White	lb.	.19	@	.20
Truck, Heavy Gravity	lb.	.10	@	.10½
" Light Gravity	lb.	.10½	@	.11

Miscellaneous

Mechanical Blends	lb.	.08	@	.09
Red, High Grade	lb.	.18	@	.19

Crude Rubber

NEW YORK, June 2, 1926

The market opening on May 17 was quiet, the lack of factory buying and little consumer interest resulting in practically a routine market. Spot was quoted in the open market at 46¼ to 46¾c. The Exchange opened quiet but unexpected activity developed during the day on the strength of the London cable, sales totaling 462 lots.

Prices on the open market remained steady for the next few days at an average spot price of 47 to 47½c, but sagged slightly on the 20th and 21st. There was little interest from factory buyers and the market was extremely dull.

Trading on the Exchange, however, was brisk in contrast to the open market, with a total turnover during the week of 2,966 lots, nearly 600 above the former record. A large part of this trading was in June and July positions, though considerable business was done in other futures even through to March. The highest day's transactions were reached on the 19th with a turnover of 780 contracts involving 2950 tons, while 640 lots involving 1,600 tons had been sold on the 18th. Sales dropped on the 20th to 408 lots involving 1020 tons and rose to 466 lots involving 1165 tons on the 21st. Saturday was extremely quiet and practically no business was done in the market.

The market was still dull at the outset of last week, with prices practically unchanged, though some transactions below quoted prices were reported. All previous records on the Exchange were broken on the 25th with a total of 1,329 contracts involving 3,322½ tons. This movement followed the opening of the London market in which prices continued low all day, and which many hailed as a signal for covering operations. Practically all trading operations were involved up to April, 1927. Prices in the outside market continued to decline during the rest of the week.

While the week ended dull, Tuesday's high record on the Exchange makes the week's business of considerable importance. The trade, however is waiting for the increased buying which they expect will result when the demand rises as inventories and stocks of crude rubber decline.

After the three-day holiday the market opened weak, reflecting the higher London stocks. Trading on the Exchange was dull. What little interest was shown was for June position. To-day however, activity increased and prices broke sharply. Heavy selling and London cables combined to cause this drop which brought June down to 41.20. Closing prices are shown in table at bottom of this page.

JUNE 2 OPEN MARKET PRICES

Plantations—

Ribbed Smoked Sheets			
Spot	.41⅛	@	.42
June	.41	@	.41½
July/Sept.	.39	@	—
Oct./Dec.	.39	@	—
First Latex, crepe spot	.42	@	.43
Amber Crepe, No. 2, spot	.31	@	—
" " No. 3	.35	@	—
" " No. 4	.34	@	—
Brown Crepe, Rolled	.32	@	—
" " Clean, thin	.35	@	—
" " Specky	.31	@	—

Pontianac—

Bangermassin	Nominal		
Palembang	Nominal		
Prime Pressed	Nominal		
Sarawak	Nominal		

Paras—

Up-river Fine	.34	@	—
" Medium	.30	@	—
" Coarse	.21	@	—
Acre Bolivian, fine	.39	@	—
Tapajos, fine	—	@	.35½
Islands, fine	.33	@	—
Cut Beni Bolivian, fine	.39	@	.40

Caucho Ball—

Upper, shipment	.22	@	—

Centrals—

Corinto, scrap	.21	@	—
Esmeraldo, sausage	.21	@	—
Guayule, w and d	.43	@	—

Africans—

Benguela, No. 2	Nominal		
Congo, upper, black	Nominal		
" red	Nominal		
Kassai, Prime Red	Nominal		

Balata—

Block, Columbia	—	@	.65
" Cuidad	—	@	.65
Sarinam, sheet	—	@	.72

Gutta Percha—

Siak	.32	@	.33
Red Macassar	3.00	@	3.50

Chicle—

Mexican, Yucatan	—	@	.58

LONDON MARKET

Standard Ribbed Smoked Sheets—

Spot	19¾d
June	19¼
July/Sept.	19¼
Oct./Dec.	19½
Jan./March	—

SINGAPORE MARKET

Standard Ribbed Smoked Sheets—

Spot	18¼d
June	18½
July/Sept.	18⅝
Oct./Dec.	18¾

Closing Prices on Rubber Exchange of New York, Inc.
MAY 17 to JUNE 2

		June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Jan.	Feb.	March	April	SALES*
May	17	46.60	43.70	43.50	43.40	43.30	43.30	43.30	43.30	43.30	43.30	43.20	463
	18	46.90	43.90	43.50	43.40	43.80	43.20	43.20	43.20	43.20	43.20	43.20	640
	19	47.40	43.40	44.00	43.90	43.80	43.60	43.60	43.50	43.50	43.50	43.50	780
	20	46.90	43.90	43.20	43.00	43.00	43.00	43.00	43.00	43.00	43.00	43.00	408
	21	46.80	43.80	42.90	42.90	42.80	42.80	42.90	43.00	43.00	43.00	43.00	467
	22	46.30	43.30	42.50	42.50	42.50	42.50	42.50	42.60	42.60	42.60	42.60	209
	24	46.20	43.20	42.20	42.20	42.00	42.00	42.00	42.20	42.20	42.20	42.20	214
	25	45.20	41.80	40.50	40.80	40.50	40.50	40.50	40.80	40.80	40.90	40.90	1,329
	26	45.00	42.20	41.10	41.00	40.60	41.20	41.20	41.00	41.00	41.00	41.00	580
	27	44.40	41.40	40.80	40.70	40.70	40.70	40.70	41.10	41.10	41.10	41.10	705
	28	43.20	40.70	40.00	40.00	40.10	40.10	40.20	40.50	40.50	40.50	40.50	622
	29	(Exchange closed)											
June	1	42.20	39.80	39.20	39.20	39.30	39.20	39.50	39.50	39.50	39.50	39.50	517
	2	41.20	39.20	38.70	38.50	38.60	38.60	38.80	39.20	39.20	39.20	29.20	540

(*) in lots of 2½ tons each

The Market Place

3.

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THE MARKET PLACE Section Continued on Second Page Following.

Accelerators
Colors
Mineral Rubber
Compounding Materials

RUBBER CHEMICAL and COMPOUNDING MATERIAL MARKETS

Softeners
Vulcanizing Ingredient
Rubber Substitutes

NEW YORK, June 3, 1926—Improving weather conditions have tended to keep tire manufacturers active with the result that shipments of accelerators and compounding materials have continued in good force. A few reductions in quotations are noted in the accompanying list but on the whole the market is firm. Anti-oxidants are commanding a great deal of attention and manufacturers are freely availing themselves of their advantages. Quotations follow:

ACCELERATORS

Organic

A-7	lb.	.65 @	.80
A-40	lb.	.65 @	.80
A-19	lb.	.70 @	.85
A-11	lb.	.70 @	.85
Aledhyde ammonia, crystals	lb.	.82 @	—
Aniline oil, drums	lb.	.17 @	.17½
"BB"	lb.	1.05 @	1.07
Crylene	lb.	.70 @	—
paste	lb.	.50 @	—
Di-Ortho-Tolylguanidine	lb.	1.05 @	1.08
Diphenylguanidine	lb.	.85 @	.88
Ethylidene aniline	lb.	.60 @	.65
Excellerex	lb.	.35 @	.40
Formaldehyde-Aniline	lb.	.40 @	.42½
Grasselerator 102	lb.	.80 @	.82
Grasselerator 552	lb.	4.80 @	5.00
Grasselerator 808	lb.	1.25 @	1.50
Heptene	lb.	.55 @	—
Hexamethylene-tetramine	lb.	.80 @	.82½
Monex	lb.	3.75 @	5.00
Paraphenylenediamine	lb.	1.25 @	1.30
Piperidine-Piperidyldithio-Carbamate	lb.	4.80 @	5.00
R & H 50	lb.	.60 @	—
Super-Sulphur No. 1	lb.	.50 @	—
Super-Sulphur No. 2	lb.	.18 @	.25
Tensilac, No. 41	lb.	.65 @	—
Thiocarbanilide, kegs	lb.	.22 @	.26
Trimene	lb.	.75 @	—
base	lb.	1.20 @	1.35
Triphenylguanidine	lb.	.70 @	.73
Tuads	lb.	4.50 @	5.00
Vulcone	lb.	.75 @	.79
Z. 88	lb.	.75 @	1.00
Zimate	lb.	5.00 @	—

Inorganic

Lead, sublimed blue	lb	.10 @	.10½
Lead, white	lb.	.10¾ @	—
Litharge, domestic	lb.	.10½ @	—
Magnesia, calcined, light	lb.	.10 @	—
extra light	lb.	.40 @	.45
heavy	lb.	.04½ @	.05

COLORS

Blacks (See Compounding Materials)

Blues

Prussian	lb.	.32 @	.34
Ultramarine	lb.	.08 @	.35

Browns

Sienna, Italian	lb.	.04 @	.14
Umber, Turkey	lb.	.04 @	.06

Greens

Chrome, light	lb.	.31 @	.33
medium	lb.	.32 @	.35
dark	lb.	.35 @	.40
commercial	lb.	.08 @	.11
Chromium Oxide, bbl.	lb.	.30 @	.31

Reds

Antimony crimson, 15/17	lb.	.27 @	—
sulphur free	lb.	.48 @	.50
vermillion 15/17	lb.	.37½ @	—
golden, 15/17 F.S.	lb.	.16 @	—
pentasulphide, pure,	lb.	.33 @	.35
15/17 F.S.	lb.	.26 @	.30
Indian English	lb.	.11 @	.15
Oximony	lb.	.13¼ @	—
Para toner	lb.	.80 @	.90
Red oxide, reduced	lb.	.11 @	—
pure	lb.	.12 @	.14
Blue Ridge	lb.	.12 @	.14
Toluidine toner	lb.	1.80 @	2.10
Venetian red	lb.	.01½ @	.05
Vermillion, quicksilver, English	lb.	1.40 @	1.45

Whites

Albalith	lb.	.05⅞ @	.06⅛
Lithopone, Akcolith	lb.	.05⅞ @	.06
Litsopone, Azolith	lb.	.05⅞ @	.06⅛
Zinc Oxide—American Process			
XX red	lb.	.07½ @	.07¾
Kadox, black label, kegs	lb.	.10⅝ @	.11¼
blue " " "		.09⅝ @	.10⅛
red " " "		.08⅝ @	.09⅛
American Azo: ZZZ (lead free)	lb.	.07¼ @	.07¾
ZZ (under 5% leaded)	lb.	.06¾ @	.07⅜
Zinc Oxide—French Process			
White seal	lb.	.12⅜ @	—
Green seal	lb.	.11⅝ @	—
Red seal	lb.	.10⅝ @	—

Yellows

Chrome	lb.	.17½ @	.18
Ocher, French medium	lb.	.03¼ @	.03⅜
domestic	lb.	.01¾ @	.02½

COMPOUNDING MATERIALS

Aluminum Flake (f.o.b. plant)	ton	21.85 @	24.50
hydrate light	lb.	.16 @	.17
Ammonia carbonate	lb.	.13½ @	.17½
Are-O-Sel	ton	8.00 @	11.00
Asbestine	ton	15.50 @	18.50
Barium carbonate	ton	54.00 @	55.00
Barium Dust	lb.	.05 @	.06
Barytes southern off-color,	ton	12.00 @	18.00
Western prime white	ton	23.00 @	—
imported	ton	27.00 @	34.00
Basofor	lb.	.04½ @	—

Blacks

Arrow "Aerfloted"	lb.	.08 @	.12
Bone Black	lb.	.05½ @	.11
Carbon "	lb.	.09 @	.13
Drop "	lb.	.07½ @	.14
Ivory "	lb.	.12 @	.45
Lamp "	lb.	.12 @	.40
Micronex	lb.	.09 @	.13
Thermatomic carbon	lb.	.05 @	—
Blanc fixe dry f.o.b. works	lb.	.03¾ @	.04
Carrara filler	lb.	.01¾ @	.02
Catalpo (fact.)	lb.	.02 @	—
Chalk	lb.	.02½ @	.04½
Clay, China, domestic	ton	15.00 @	25.00
Aerfloted Suprex	ton	13.00 @	20.00
Blue Ridge, Dark	ton	9.00 @	—
" " Light	ton	12.00 @	—
Dixie	ton	20.00 @	35.00
Langford	ton	12.00 @	22.00
Mineral Flour, c. l. fob mine	ton	17.00 @	20.00
Seminole, c. l. fob mine	ton	16.00 @	—
Glues, extra white	lb.	.20 @	.29
medium white	lb.	.18 @	.24
common bone	lb.	.12 @	.14
Graphite flake, bbls.	lb.	.06½ @	.12
Magnesia, carbonate	lb.	.08 @	.09
Mica, powdered	ton	65.00 @	80.00
Rotten Stone (powdered)	lb.	.02½ @	.04½
Soapstone, powdered	ton	15.00 @	22.00
Starch, powdered	cwt.	3.30 @	3.70
Talc, domestic	ton	16.00 @	18.00
Terra Alba	cwt.	1.25 @	2.00
Tripoli, white	lb.	.02 @	.02¼
Whiting, commercial	cwt.	1.00 @	1.15
English cliffstone	cwt.	1.50 @	—
Quaker	ton	13.00 @	15.00
Superfine	ton	10.00 @	12.00
Sussex	ton	8.00 @	10.00
Wood pulp XXX	ton	35.00 @	—
" " X	ton	25.00 @	—

MINERAL RUBBER

Genasco (factory)	ton	50.00 @	52.00
Granulated M.R.	ton	33.00 @	38.00
Hydrocarbon, Hard	ton	29.00 @	35.00
Hydrocarbon, Soft	ton	29.00 @	—
320/340 M.P. hydrocarbon (c. l. factory)	ton	47.00 @	52.00
300/310 M.P. hydrocarbon (c. l. factory)	ton	42.00 @	47.00
Paradura	ton	70.00 @	72.50
Robertson, MR, solid	ton	35.00 @	75.00
M.R. (gran)	ton	42.00 @	80.00

SOFTENERS

Acids

Muriatic, 20%	cwt.	.80 @	.90
Nitric, 36 degrees	cwt.	4.75 @	5.00
Sulphuric, 60 degrees	ton	10.00 @	11.00
66 degrees	ton	14.00 @	15.00
Tartaric, crystals	lb.	.29 @	—

Alkalies

Caustic soda, 76%	cwt.	3.76 @	3.91
Soda ash, 58% C.L.	cwt.	1.43 @	1.45½

Oils

Castor, No. 3 bbls.	lb.	.12¾ @	—
Corn, crude, bbls.	lb.	.11¼ @	—
refined	lb.	.13 @	—
Cottonseed, crude		.10½ @	—
Cycline	gal.	.26 @	.34
Glycerine, C.P. drums	lb.	.23½ @	.24
Linseed, Raw C.L. bbl.	lb	.11 @	—
Liquid Rubber	lb.	.12 @	—
Moldrite	lb.	.05 @	.06
Palm, Lagos	lb.	.08½ @	.08¾
Niger	lb.	.08⅛ @	.08¼
Peanut, domestic crude	lb.	.12½ @	—
Petrolatum, white	lb.	.11⅛ @	.11⅜
amber	lb.	.03⅞ @	.04
dark amber	lb.	.03⅝ @	.03¾
Pine, steam distilled	lb.	.68 @	—
Rapeseed, refined	gal.	.84 @	.90
blown	gal.	1.00 @	—
Rosin, first rectified	gal.	.60 @	.62
second rectified	gal.	.65 @	.67
Soya Bean, crude		.13¼ @	.13½
Synthecite	lb.	.06 @	—
Tar, commercial	gal.	.30 @	.32

Resins and Pitches

Pitch, Burgundy	lb.	.06 @	.06⅛
coal tar	gal.	.05½ @	.06
pine	bbl.	8.00 @	9.50
Rosin, grade K	bbl.	10.25 @	12.85
Tar Retort	bbl.	20.00 @	—
kiln burned	bbl.	20.00 @	—
Tackol	lb.	.09 @	.15

Solvents

Alcohol denatured, No. 1 bbls.	gal.	.34 @	.47
Benzol, 90%	gal.	.30 @	—
pure		.30 @	—
Carbon bisulphide	lb.	.05½ @	.06¼
tetrachloride	lb.	.07 @	.08
Motor gasoline, steel bbls.	gal.	.23 @	.29
Naptha, V. M. & P.	gal.	.14¾ @	—
Turpentine, spirits	gal.	.89 @	—
wood	gal.	.82 @	—

Waxes

Beeswax	lb.	.62 @	.63
Carnauba, No. 1	lb.	.48 @	.49
Ceresin, white	lb.	.10 @	.11
Montan, crude	lb.	.06 @	.06½
Ozokerite, black	lb.	.24 @	.25
green	lb.	.26 @	.30
ParaffineWhiteA.M.P.	lb.	.05¼ @	.05¼
Yellow A.M.P.	lb.	.05¼ @	.05⅝
Sweet Wax	lb.	.10 @	—

ANTI-OXIDANTS

Age-Rite	lb.	.85 @	.90
Antox	lb.	.88 @	—
VGB	lb.	.70 @	—

SUBSTITUTES

Black	lb.	.08½ @	.14
White	lb.	.09¼ @	.17
Brown	lb.	.03½ @	.15
Brown factice	lb.	.10 @	.16
White factice	lb.	.10½ @	.17½

VULCANIZING INGREDIENTS

Black hyposulphite	lb.	.18 @	.20
Ethyl Chloride, Cyl.	lb.	.55 @	—
" " Drums	lb.	.45 @	—
Sulphur Chloride (drums)	lb.	.08½ @	—
Sulphur flour Superfine, bags	cwt.	2.20 @	2.50
" bbls.	cwt.	2.60 @	2.90
100% pure, refined, bags	cwt.	2.35 @	2.90
bbls.	cwt.	2.90 @	3.15

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Vulcanization DU PONT Accelerators

The RUBBER AGE

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With the Editor

It has been pleasing to have several subscribers remark upon the readability of the last issue of THE RUBBER AGE. It is all the more pleasing because it is an indication that the changes made in the paper were in the right direction. It is hoped that those to be made in the future will meet with similar commendation and it is expected that they will if they add to readability also.

Although many of the features of THE RUBBER AGE are of lasting value, every department of the paper presents matter of immediate interest. Both physically and editorially, an effort will be made to make every issue easy and pleasing to read. The twice-a-month appearance naturally aids such a program.

In the present issue there appears a page of editorials from foreign rubber papers. It should be worth-while thus to see ourselves as others see us. The editorials are offered without comment but we can vouch for the standing of the papers in which they appeared.

The index to the left will show that the feature section is again strong in timeliness. Dr. Whitford's article on a modified system of rubber culture and Mr. Linforth's discussion of balloon tires for motorcoaches both touch upon live subjects. THE GENTLEMAN FROM MINCING LANE offers another letter of keen comment. His first letter was widely approved.